

North Coast

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A Mechanical Analysis of the
Pole Vault
Richard Goulet

The Way to Learn to Hit
Joe Gargan

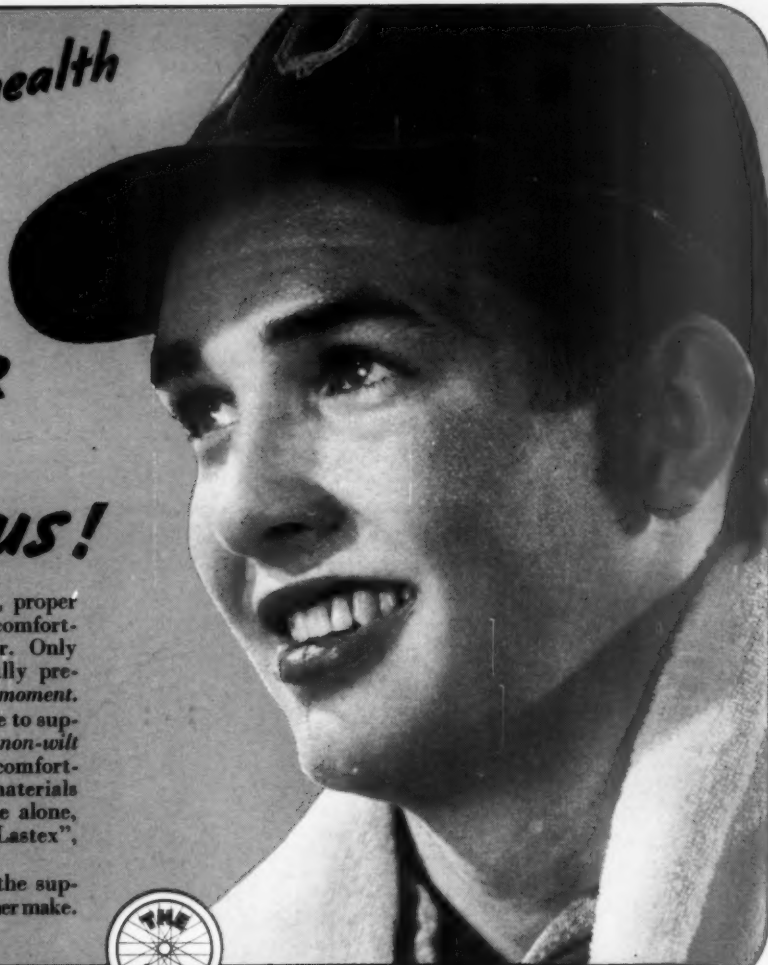
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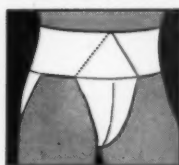
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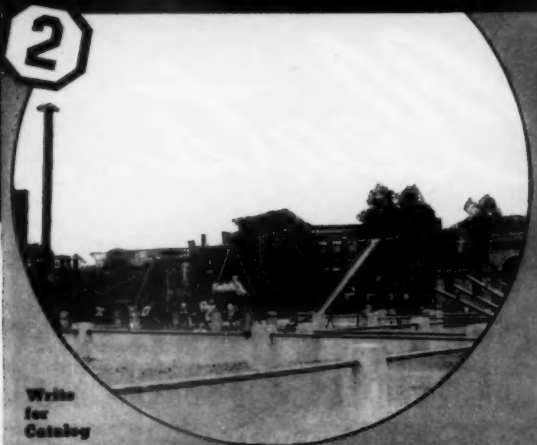
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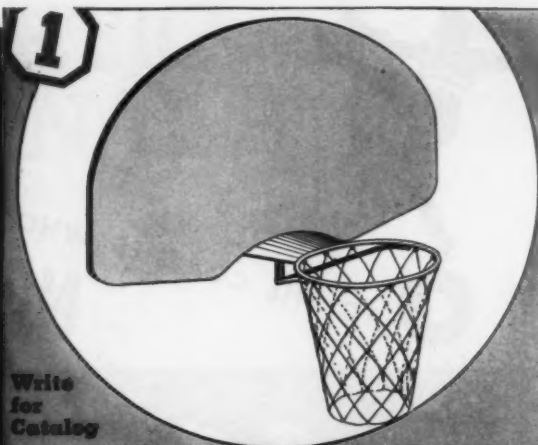


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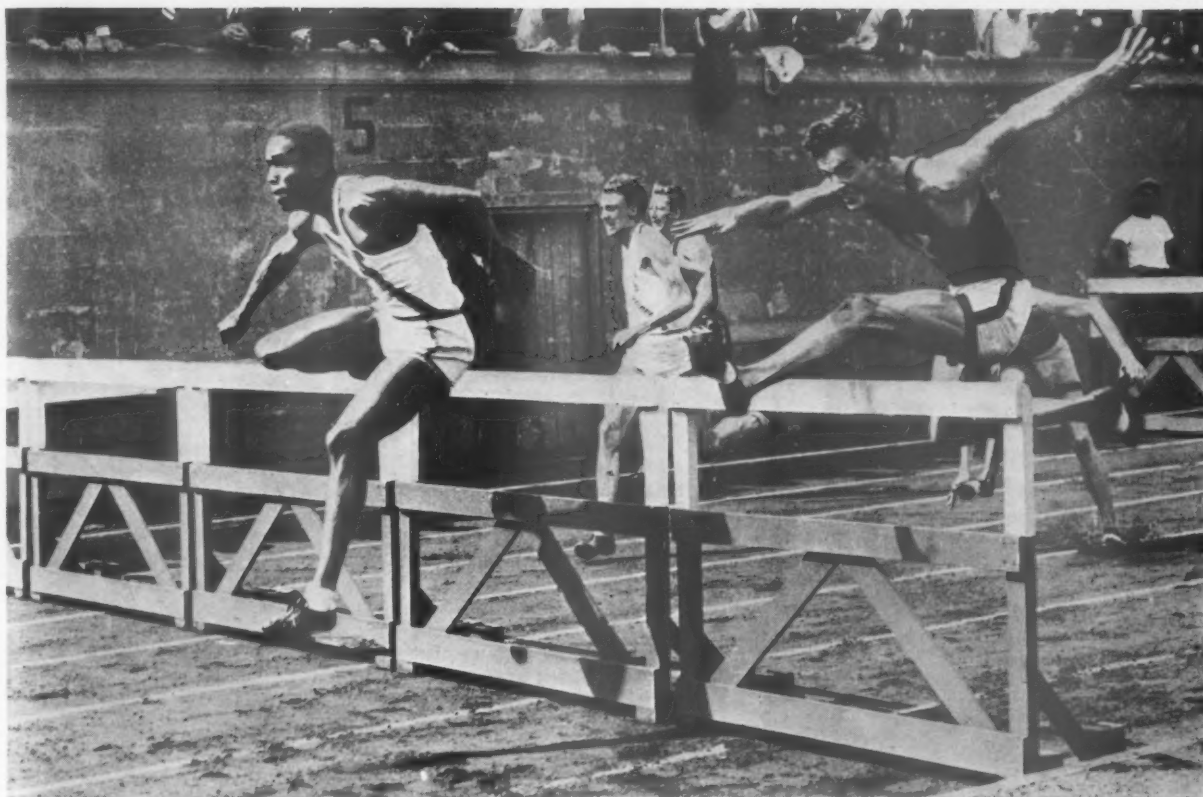
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Dugger defeating Shields of Yale in the final of the I. C. A. A. last spring.

Hurdling as Done by Dugger of Tufts College

By William Stanton Yeager
Track Coach, Tufts College

THIS article is not intended to be a thorough technical discussion of hurdling. It is rather the story of one top-flight performer, Edward Dugger, Jr., written in the hope that it may be of interest to those who enjoy seeing young men demonstrate their strength and skill on the track in the most spectacular running event—hurdling.

Any of the older track coaches will tell you that they spend most of their time, energy and skill developing mediocre athletes who are interested in the sport, yet who could never become world champions, and that is exactly as it should be.

Track is an individual sport and must depend upon individual performance. Team mates may help to build each other up psychologically but not physically. The individual must do that for himself. The coach understands that he cannot create, but can only develop the material which he has. Many of our finest coaches have

never had world champion hurdlers on their teams; yet they are continually developing good hurdlers from the poor material which they have.

While most coaches make their athletes, occasionally a natural comes along to make the coach. Such a man is Ed Dugger. He is endowed with all the physical and mental qualities that any coach could desire. He is 6 feet 2 inches tall, long-legged (inclined to knock knees), muscular without fat, and weighs from 180 to 185 pounds. He has natural spring, perfect muscular co-ordination, steady nerves and very fast reaction time. He is a high-grade student, a keen observer and an excellent competitor. He is very popular with the student body who have elected him to several different offices in addition to the captaincy of both the indoor and outdoor track teams.

One of the finest things about him, however, is his desire and willingness to take

coaching. He tries to do, without argument, whatever he is told and seldom needs to be shown more than once how to correct a fault.

Ed inherited athletic ability from his father who was a 1000-yard runner and from his mother who was a star gymnast at the Sargent School of Physical Education.

Ed was also fortunate in having a high school coach, Art Noble, at Medford High School, who brought him along gradually, by developing his jumping and sprinting ability, without which no one can ever become a *good* hurdler.

Although we have never allowed Ed to do any regular competitive jumping since his freshman year, we can always depend upon him to do about six feet in the high jump and around twenty-three feet in the broad jump in case we need an extra point or two in a dual meet.

There are three essentials in hurdling—

speed, power and form. Since time is lost with every jump, the three strides taken between hurdles* must be fast to equal the intercollegiate record of 13.9 seconds. Power including endurance is also necessary. The terrific drive and lift of body weight can be held to the end of a race only by those with strong muscles and a good heart.

* All references are to high hurdles.



Form is probably the most valuable of the three essentials. It includes the approach, the spring, the leg throw, the leg snap, the body bend, the arm action, and the proper balance upon landing, in order that the hurdler may continue his spring with an unbroken stride.

Fortunately for coaches there is only one recognized good form type in hurdling. Therefore, we speak of a hurdler's form as being good or bad only as it approaches the standard type.

The accompanying illustrations will show the correct form much better than any word description, for Dugger approaches closer to true form than any man I have ever known.

In approaching the first hurdle Ed starts with his right foot forward on the starting line, takes eight strides, leaves the ground about 6 feet 8 inches in front of the hurdle, throws the left leg straight to the front, snaps it down quickly on the opposite side of the hurdle as the head and shoulders are thrown forward. The right foot is held outward as the right knee is bent sharply and thrown forward into a natural running stride. It has always seemed to me that the slight twist to his trick knee enables him to clear the hurdle faster and closer than would otherwise be the case.

Illustration 1 shows Dugger leaving the ground seven feet from the first hurdle in a 45-yard high hurdle run. Notice the stretch as the left knee straightens, the forward bend of the body and the powerful arm action which assists in the lift and carry over.

Illustration 2 shows Dugger and his team mate, Walter Hall, clearing the top of the first hurdle. Notice especially the right knee as it is brought forward bent, with the toe out, so that he might clear the top with the least possible body lift. Note also the forward lean which prevents the head from going any higher during the jump than during the run.

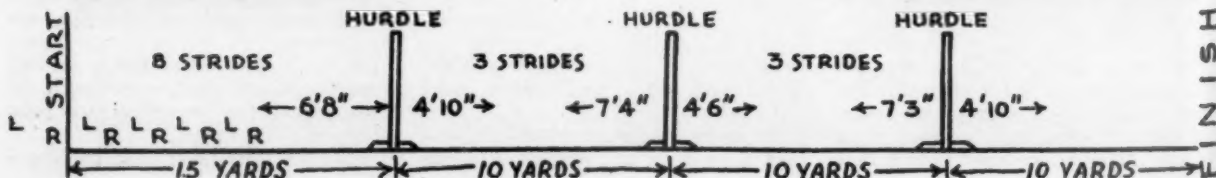
Illustration 3 shows Dugger over the first hurdle just ready to snap the left foot onto the ground as the right leg swings into full stride. The stride in this picture is too long; it approaches sailing. Therefore, the left foot cannot be brought to the ground quickly enough. Dugger ran just one hurdle for the photographer when this picture was taken, and therefore relaxed as soon as the jump was made—an error to be avoided. Notice the difference when he was racing as shown in the picture at the beginning of the article. Note how close he has been to the hurdle and how quickly his left foot is snapped to the ground as soon as the hurdle has been cleared. Shields, a very fine hurdler, is working much harder, jumping higher and dragging his right leg a little too much.

Illustration 4 shows Dugger's form at the very top of his jump. Notice his leg spread and arm action as the right leg and left arm start forward into the position shown in Illustration 5.

The diagram at the bottom of the page shows his average striding in running the 45-yard hurdles.

Notice that the spring is from the right foot at an average distance of 6 feet 8 inches in front of the hurdle and the left foot strikes the ground 4 feet 10 inches beyond the hurdle. As his speed increases, his second take-off is about 7 feet 4 inches

(Continued on page 38)



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The Way to Learn to Hit

By Joe Gargan

Director of Athletics, Kingswood School, West Hartford, Connecticut

THE answer to the question, Can You Hit, will determine your worth as a baseball player. To be considered a good baseball player, you must be able to hit, just as a good football player must be able to block and tackle. You will be numbered among the good hitters if you can: 1. Get one hit out of every three trips to the plate. 2. Get a hit when it is needed.

Your ability to hit is more important than your skill in catching flies or fielding grounders. Hitting is more difficult to develop, yet most young players spend hours in fielding and very little time in hitting. If you intend to develop your baseball ability, you must spend hours in learning to hit. Instead of chasing flies or fielding grounders, you must hit at every opportunity. You will find that you still have plenty of time and opportunity to do all the fielding you need. You must get someone to throw to you and someone to chase the ball, and you must hit until you are tired. You must practice your swing at odd moments. Keep a bat at home and frequently practice a few swings when you are not otherwise occupied. Pick up a bat and swing it instead of standing around on the field. Practice your swing at least fifty times every day.

Some day this season you will step up to the plate and find yourself "on the spot." Perhaps the tying run will be on second; it may be there will be two out with the winning run on third. A hit is needed. People on the side lines will be on their feet yelling.

The catcher will be trying to "rattle" you. Your team mates will be shouting encouragement. Every practice swing you have taken will help you at this moment, because there is nothing natural about batting. It must be learned just as you learn to typewrite or play golf.

There are two ways of learning: 1. By imitating other players, following different suggestions and trying whatever ideas occur to you at the moment. 2. By studying sound ideas and by constant practice of the right things.

If you try to learn by the first method, as most boys do, you will develop so many faults that you will not become a good hitter. The way to learn to hit is to get a clear idea of *how* to hit properly and then practice constantly the things that you have learned. Study the ideas presented in the following paragraphs. From them you should learn the things that will help you in the right way. They are listed in this order: 1. Choosing your bat. 2. How

IT is not necessary to introduce to our readers Joe Gargan, the author of this article. Mr. Gargan's "Helping the Secondary School Batter," April, 1937, issue; "Pitching Fundamentals for the Schoolboy," April and May, 1938, issues; and "Development of a Schoolboy Catcher," March, 1939, issue, received many favorable comments.

Believing that it is difficult for any coach to explain the many important points regarding batting so that the schoolboy player may remember them, Mr. Gargan has summarized them in such a way that coaches may give this article to their players for study.

Because we feel that this article has so much merit, we are having 1,000 reprints made in booklet style. These will be sent out at exactly cost plus postage. Write in for quantity prices.

to hold the bat. 3. How to stand. 4. Where to stand. 5. Faults in your swing. 6. Running to first base. 7. Laying down a bunt. 8. The way to practice. 9. What to think about.

Choosing Your Bat

The way your bat feels to you, not the name on it, is important. Bats come in a variety of styles and sizes, and most of them are autographed. The name on the bat should not influence your choice, for it does not follow that, because a certain style of bat is used by a popular ball-player, it is the one for you. The size and type must fit you like your shoes, and should be chosen with care.

Select a 33- or 34-inch bat. Be sure that the grain is straight and free from knots around the handle. A crooked-grained bat is easily split, as is one with a knot in the handle. Hold the bat at the place on the handle from which the weight is best distributed. If the bat does not feel just right when you hold it at this point, choose another model. Be careful not to hold it in the wrong place. Some bats are made to be held with the hands well up on the handle; others with the hands closer to the end. If you feel more comfortable with your hands close to the end of the handle, choose a bat of that style, not one with the balance point further up the handle.

Keep in mind the importance of a short bat. One that is too long will cause you to hold it too tightly or to cock your wrists, thus tensing the muscles of your

forearms and preventing a free swing and follow-through.

Do not worry about the size of the hitting surface. Many young players think that the larger the circumference, the better they can hit with a bat. Actually the one thing that really counts in hitting is the smoothness of the swing. If you can control your bat well enough to develop a smooth, level swing, its size is unimportant.

Do not choose a bat with a thin handle and heavy end. Unless you are the exception who can handle this style of bat well, you should not attempt to use one. Such a bat is difficult to control.

Only by trying a variety of models, holding each by its proper balance point and swinging until you find one that fits you, can you choose a bat that suits you.

Helpful suggestions for choosing your bat may be summed up as follows: 1. Do not choose a bat because of the name on it. 2. Look for the length marked on the end of the handle. 3. Select a bat 33 or 34 inches in length. 4. Be careful to avoid one that is too long; that is, one that feels heavy and awkward. 5. Watch out for knots or twisted grain in the handle. 6. When swinging the bat, hold it at its balance-point. 7. Avoid the bat with a thin handle and heavy end. 8. Choose a bat that feels just right when you swing it while holding it properly. 9. If you are consistently "popping up" your bat is probably too heavy. 10. If you consistently "top" the ball, your bat is probably too light.

How to Hold the Bat

If you hold a gun wrong, you may shoot yourself. Unless you hold a bat right, you can not hit. Hold it at the balance-point with both hands together. If you are a right-hand batter, your right hand should be on top. Your elbows should be held only far enough apart, that the forearms are about at right angles with each other. They should be held well out from your body.

It is necessary to have your wrists straight to bring the wrist of your top hand behind the bat as it meets the ball. This is important, because, if your wrist and forearm form a straight line from hand to elbow behind the bat, a smooth swing and a strong follow-through will result. On the contrary, if your wrists are cocked, the smoothness and freedom of your swing will be destroyed. Try your swing with the wrists straight and again

with them bent. See the difference the straight wrist makes in producing a smooth, level swing.

Grasp the bat with a grip that is relaxed. There is a temptation to clench the hands, and most young batters do this unconsciously. If you hold the bat too tightly, the muscles of your forearm become tense, thus preventing a free swing and follow-through. Whenever the knuckles of the hand show white, it is evident that the hands are clenched too tightly. Try holding your bat in a tight grasp and notice how it shortens your swing. To prevent this, relax your grip each time you start your swing. Do this until you have formed the habit of starting the swing with a relaxed grip. If you are using the right bat and concentrate on relaxing your grip with the start of your swing, you will soon find that you have developed a smooth, free swing. Your hands will naturally tighten their grip before the bat meets the ball.

Be careful to hold the bat so that the trademark is on top. Any bat will break easily unless you are careful to watch for this.

Helpful suggestions in holding the bat are as follows: 1. Hold the bat with your hands together. 2. Never bat with crossed hands. 3. Keep your wrists straight. 4. Do not spread your elbows too wide. It will cause you to cock your wrists. 5. Do not cock your wrists. 6. Your elbows should be well out from your body. 7. At the time the bat meets the ball, the wrist and forearm of your top hand should form a straight line directly behind the bat. 8. To avoid clenching your hands unconsciously, practice relaxing them as you start your swing. 9. Always hold the trademark up.

How to Stand

An old major league baseball scout once said to me, "The lower the league, the closer to the ground you'll find the batters." He then went on to say that the good hitters whom you find in the major leagues stand upright in well-balanced positions, while the poor hitters of the "bush" leagues tend to crouch and twist their bodies into positions from which it is impossible to hit correctly.

The first and most important thing to learn is to stand upright with your body well balanced and relaxed. Crouching, bending, twisting, all cause tension and interfere with your swing. Each player has his own stance. In general, however, there are certain things to do that are right and certain faults to avoid.

There are two ways of standing at bat. One we call the step stance and the other, the set stance. In the former you face toward the pitcher and step as you swing. In the latter you stand with your feet straddled and parallel to the plate and hit without stepping. The step stance is the

normal way of hitting—the one you should learn. If you have trouble with it, try the other.

Step Stance

Stand erect with your feet about eight or ten inches apart. The toe of your rear foot should point toward the plate and that of the front foot in the general direction of the pitcher. Your body should face a point somewhere between first base and the pitcher's box. Your shoulders must be level. Your elbows should be well out from your body. Your weight should be mostly on the rear foot.

As you start your swing, take a short step and plant your foot with the toe still pointing toward the pitcher. This pointing of the front foot is important because it provides an opportunity to pivot with your swing. If you did not point your foot outward, you could not pivot well. Be sure the step is short, that is, about twelve to eighteen inches. If it is too long, you lose power and the movement throws your swing off. As you swing and follow through, your weight will be transferred from the back to the front foot. Your weight comes on to the front foot as the bat meets the ball. If you find that you step away from the pitch instead of toward it, you should try to correct it by changing your stance in one of two ways: 1. Try facing toward the pitcher with your regular step stance. This position will give you more confidence in your ability to avoid close pitches. 2. If facing the pitcher does not help you, try hitting from a set stance. From this position you will not hit with so much power, but you should be able to hit with more accuracy.

Set Stance

This is a good stance to use if you are having trouble with your hitting. If you step away from the pitch, you may hit better from a set position, but you must be careful not to throw your weight back onto your heels. This fault is called "hitting off your heels" and is worse than stepping away from the pitch. This stance may also help your batting, if you tend to swing at bad balls.

Stand flatfooted with your feet parallel to home plate, and a little more than shoulder-width apart. Bend your knees slightly and incline forward somewhat from the hips. This slight flexing of the knees and leaning forward will give you better balance and relaxation. Keep your shoulders level and your elbows well out from the body. Turn your face toward the pitcher. Your weight should be on both feet. As you swing, your front foot will slide forward for a distance of about six inches.

We may summarize our suggestions on stance as follows: 1. Stand upright with the front foot pointing toward the pitcher

(step stance). 2. Be well-balanced, with most of your weight on the rear foot (step stance). 3. Be relaxed, with your elbows well out from your body. 4. Avoid any twisting, turning or bending of the body that cause poor balance or tension. 5. If you step away, try facing the pitcher or take a set stance.

Where to Stand

The batter's box is six feet long and four feet wide. You must have both feet inside this space when you hit the ball. The size of the box gives you plenty of room to vary your position, and you must find out which is the best spot from which to hit.

The usual fault is that of *standing too close to the plate*. The youngster playing in some back lot and using a stone or a piece of board for a plate will almost invariably crowd the plate, fearful that he will not be able to reach the ball otherwise. This position is the cause of such faults as stepping away from the pitch, hitting with the elbows close to the body, failure to hit the ball out in front, and hitting at bad balls. Do not crowd the plate.

The other common fault to avoid is that of *taking the same place in the box at all times*. There are times in the game when you should vary your position from the usual one. Then, too, you will need to change your position according to the type of pitching. Do not fail to shift when necessary.

Take your stance about opposite the rear of the plate and far enough back from it so that your bat, when properly swung, reaches just beyond the farthest corner. With this as a starting point, try varying your position in the box to find from what spot you hit best against average pitching. The way you stand, use your feet, hold the bat, and swing will all be factors in determining your best spot. With so many things involved, it will take some little time and experimenting to find your best spot.

Once having determined your position in the box, vary it only under the following conditions: 1. Against a fastball pitcher, move back. 2. Against a slow-curve pitcher, move forward. 3. If you are a left-hand hitter, move forward against a left-hand pitcher. 4. When about to bunt, stand well forward. 5. When there is a runner on first, and the steal is on, stand far back. 6. When trying to draw a walk either, crowd the plate or stand in the rear-outside corner. The latter is better if the pitcher is wild.

Helpful Suggestions: 1. The batter's box is large enough to allow you to vary your position in the box. 2. Do not crowd the plate. Stand far enough back so that when you swing your bat, the end reaches a little beyond the farthest corner of the plate. 3. Start from the point opposite the plate and try different places in the box

until you find your best spot. 4. Vary your position to fit the circumstances of the game. 5. Vary your position to meet different types of pitching.

Faults in Your Swing

The way you swing your bat is the most important factor in hitting. The kind of bat you use, the way you hold it, how and where you stand are important because they affect your swing. The good swing is one in which the bat is swung level with the ground.

To develop a good swing you must study the things that affect the swing and check your method step by step. The following should be included in your check.

1. *Are you ready to hit?* Avoid the bad fault of not being "set" for every pitch. As the pitcher steps onto the rubber, get set to hit. Get your bat into position. Expect every pitch to come up in your "groove."

2. *Do you start your bat high?* Be sure that you do not allow the end of your bat to drop or let it sag over your shoulder; start your swing with your bat held well up, your lower hand just below shoulder level and far enough to the rear so that there is a slight pull on the front arm.

3. *Do you relax your grip as you start to swing?* If the bat is held tightly with the hands clenched, the freedom of the swing will be destroyed. You should relax your grip as you start the swing.

4. *Do you lose sight of the ball before it gets to the plate?* Probably the most common and serious fault in hitting is the tendency of the batter to lose sight of the ball some ten or fifteen feet out from the plate. You must follow the flight of the ball all the way to the plate without losing sight of it. You should learn to see the ball meet the bat. This takes concentration and practice.

5. *Do you move your head upward or downward during the swing?* If you move your head upward or downward during the swing, you will lose sight of the ball. Do not throw your head back or duck it as you swing.

6. *Do you keep your shoulders level?* Another common fault is dropping the rear shoulder. If you do this you will be swinging under the ball. Be sure that your shoulders are level.

7. *Do you take a long stride when stepping toward the pitch?* This fault, also common, will spoil the power and effectiveness of your swing. Your step must be short.

8. *Do you keep your hips in line?* Many batters, using a set stance, develop the tendency of pushing backward at the hips, thus getting their weight back on the heels and attempting to poke at the ball from this poorly balanced position. You cannot hit off your heels but must keep your body erect with your weight forward. Do not push backward at the hips.

9. *Do you make the swing with your arms and wrists?* You must learn that power in batting comes from a smooth, free swing and follow-through. This swing is made with the arms and wrists. Lunging at the ball is a bad fault. Some hitters naturally have more power than others. Do not try to imitate the player who gets more distance than you. Keep your elbows well out from your body and make your swing with a free arm movement.

10. *Do you "level-off" on the pitch?* Try to dip your body slightly or raise it a bit to meet low and high pitches and thus keep your bat on a line with the pitch. This is not difficult. It eliminates the common faults of "golging" at low pitches and "chopping" at high ones.

11. *Do you meet the ball "out in front?"* Next to keeping your eyes on the ball, the most important thing to learn in batting is to hit the ball out in front. This means meeting the pitch a foot or two in front of your body. You cannot possibly meet the ball correctly if you hit it at a point opposite your body. The place to meet it is out in front.

Helpful Suggestions: 1. Be ready to hit. Avoid moving or "wagging" the bat after the pitcher takes his position on the rubber. 2. Start your swing high. Do not allow the end of your bat to drop. 3. Relax your grip at the start. 4. Watch the ball all the way up to the plate. 5. Do not tilt your head when you swing. 6. Keep your shoulders level. 7. Take a short step. 8. Keep your hips in line. Do not put your weight back onto your heels. 9. Do not lunge at the ball. 10. "Level-off" on the pitch. 11. Hit it out in front.

Running to First Base

The start and run to first are important parts of your batting because they often determine the difference between being safe or thrown out. If you are able to make good time in getting to first base every time you hit the ball, you will get on base more often, you will get more hits, you will cause the other team to make more errors, and, in general, you will be harder to put out. The effort that you put into your run to first is a good indication of your attitude. If you dig for all you are worth, your coach and team mates will know that you are trying.

Experiments have shown that it takes longer to move the first twenty feet than the last seventy, and it is within that first twenty feet that you need to practice on cutting down your time. If you are a right-handed batter, take the first step with the right foot. If you take the first step with the left foot, it will slow your start, because your weight has been shifted to that foot with your swing and, in order to take the first step with it, you would be forced first to recover your balance. Like a sprinter you must start with short, digging steps, trying to get into full speed

as quickly as possible. Look for the white line and follow it. Do not look toward the ball. You can tell by the actions of the first baseman what is happening to the ball.

Run at full speed to a point about three or four yards beyond first base. Make this the finish of your sprint, or you will find that you unconsciously slacken speed as you approach the bag. Run all the way through on every hit to the infield, and run it at top speed. Even though the ball is there well ahead of you, there is always a chance that the baseman may drop it or that his foot may be off the bag. Never consider yourself out until you have completed your run and turned back to learn the umpire's decision.

You should never slide to the base unless the baseman or pitcher is off the bag and attempting to tag you. In such a case you should slide to avoid being tagged. Keep in mind that if you run out of the base line to avoid him, you will be called out. However, you must run outside the base line to avoid a fielder who is fielding the ball. If you do not avoid him, you will be called out.

Do not leap for the bag or stretch on the last step. Try to run over the bag with an even stride. Put a little extra effort into the last few steps, and keep in mind that you are running to a point beyond the bag.

When the ball has been hit to the outfield, start making your turn about thirty feet from the bag. Swing well over to the right of the base line, and in rounding the base, tag the bag without changing your stride. Make most of the turn before you reach the bag. Look for the ball after touching the bag, listen for the coach's instructions. Even though the ball appears about to be caught by an outfielder, keep on going; he may drop it. If the ball is hit on a line or on the ground, take your turn and be ready to break for second, if the outfielder lets it get away or is slow in handling it.

Helpful Suggestions: 1. If you bat right handed, take the first step with your right foot. 2. Look for the white line and follow it. Do not watch the ball. 3. Take short digging steps at the start like a sprinter coming off his mark. 4. Run for a point three or four yards beyond the bag. 5. Run all the way through each time. 6. Try to run across the bag with your regular stride. Stretching or leaping will slow you up. 7. To avoid being tagged, slide. 8. Start your turn about thirty feet from the bag. 9. Make most of the turn before reaching the bag. 10. Try to hit the bag without breaking your stride. 11. Take your turn on every hit to the outfield, and be ready to break for second on any misplay. 12. Be careful not to pass a runner ahead of you. If you do so, you will be automatically out. 13. Run around any fielder who is in the act of fielding the ball.

(Continued on page 36)

Building Interest in Track in Small High Schools

By

C. G. Loftin
West Side Union High School
Los Banos, California

S. A. Mettler
High School, King Hill, Idaho

George Merkle
Chester Township High School
North Manchester, Indiana

R. L. Hudson
Rural High School, Clifton, Kansas

Robert Elderdice
Mardela High School
Mardela Springs, Maryland

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Shoemaker High School
Gate City, Virginia

C. G. Loftin
West Side Union High School
Los Banos, California

ONE of the most successful devices we have used to stimulate interest in track in our high school is a pentathlon event which we stage each track season. All able-bodied boys in our school are required to participate in this event which consists of the 100 and 220 yard dashes, the broad jump, the high jump and the shot put. The boys are allowed as many trials as they want in each event in order to improve their marks. The classification of the boys and the scoring for the events are taken from "Physical Education Achievement Scales for Boys in Secondary Schools" by Cozens, Trieb and Neilson. Medals are awarded the winners in each classification group, and the boy with the highest total score has his name and score engraved on a perpetual cup. The principal results of this event have been an increased interest in track and training for track, and the discovery of boys with capacities for interscholastic competition.

There is a tendency, at least in central California, for track meets to become larger and larger. The coach of the small high school must guard against entering too many of these larger meets as a great many of his boys will become discouraged because of their inability to place in such fast competition. It is my contention that we must provide our boys in small high schools with more competition in their own class, so that every boy will be afforded a reasonable opportunity at least to place

in some of the meets during the season. Thus, by providing a schedule suited to the caliber of your boys, you will go a long way in helping stimulate interest in track.

We have found that boys not equipped with track shoes feel self-conscious and consequently fail to participate. Therefore, I feel it is important that schools interested in building up their track and field programs make provision for the supplying of a reasonable number of pairs of track shoes.

By keeping our track, our pits and runways in excellent condition, we not only reduce the physical hazards of participating in track, but this also has a definite effect on the boys' attitude toward track. If the surface of the track and runways are smooth and not too hard, the jumping pits have plenty of loose shavings and the shot and discus pits are clearly marked off, the boys will be more likely to take an interest in track.

The earlier a boy becomes acquainted with the sport, the better are the chances that he will become interested in it and be a successful participant. Therefore, the high school coach should do all in his power to foster participation in track by boys of junior high school age. He can do many things to encourage these boys by close co-operation with the people in charge of them. Many of our best track and field men are those who got a good start while still in the elementary grades.

These methods have proven very successful for us with the result that we have a well-established program.

S. A. Mettler
High School, King Hill, Idaho

THE fact that interest in track is diminishing in this area is due to a number of causes. Chief among these is the fact that track is not stressed as a team sport while baseball is. We find that by scheduling several track meets during the spring we create much more interest than if we do nothing but practice and train for the district meet.

When starting out the training season for track, we go out only about once a week. The other physical education periods are given over to baseball or tumbling. After about two weeks we spend about three periods a week on track. All boys that can work after school are encouraged to do so.

An early dual meet is always good as a starter. Usually after this first meet the boys are much more interested in continuous and rigorous training.

The big event of the year is the sports day that we hold shortly before the district meet. Three other schools about our size are invited to attend and participate in this meet.

The day is divided into two parts, the forenoon is given over to baseball and the afternoon to track. For the baseball games four teams are chosen by lot from all of the players present. Each team plays three innings and the two winners play a play-off game.

The afternoon is given over to the track meet, each school being represented by its own track team. Thirteen events are

scheduled, seven races and six field events. First and second place winners of each event each receive a ribbon. The school winning the most points in the meet is given a loving cup. About the only rules necessary, except the eligibility rules laid down by the state association are: 1. No boy will be allowed to participate in more than three events. 2. A school can not have more than three entries in each event.

Another device for creating interest is the showing of track films to the boys. Placing the state and national records of the various events on the physical education bulletin board is also very good. Mention of a pictorial article in the magazines is an excellent method not only of creating interest in track, but also of creating interest in attaining good form in the various events.

The objection that there is not enough time to devote to two major sports at the same time, especially when the same boys must take part in both sports, can be met by pointing out that baseball is chiefly a summer sport while track is a spring sport and should have predominance.

When baseball games are scheduled for Friday afternoons, track meets could be scheduled for Saturday.

George Merkle

**Chester Township High School
North Manchester, Indiana**

FOUR years ago we felt the need of a spring athletic program in our school. In an eight months' school the weather permits little opportunity for spring baseball so we turned to track. Though our students were inexperienced in track and field events, we felt sure that an interscholastic meet would furnish an incentive for training and practice. A school of similar enrollment was contacted and an announcement of the coming event made.

Our finances permitted the following meager equipment: four pairs of shoes, shot, vaulting and high jump standards and a vaulting pole. Having no cinder track, we marked out a sixth of a mile oval on our sod playground, filled a pit with sawdust for jumping, and had the shop boys make a take-off board, vaulting box and shot ring of scrap two-inch pine plank.

The balmy spring weather added further to the enthusiasm of our candidates. Examination of state high school track and field records left the boys somewhat skeptical as to their abilities but determined to do their best. To make a long story short, we were beaten quite badly in that first meet but the experience we gained was valuable.

The following year we set out to develop more interest and uncover more talent. Here, briefly, are the methods that have proven satisfactory in our particular set-up.

1. Promote an inter-class meet, provid-

ing small inexpensive medals for event winners. Most of our contests were staged during the noon period in order to give the students a chance to support their class entrants. Thus school enthusiasm was secured and this brought forth the best efforts of the boys participating.

2. Provide each boy with a pair of shoes if possible. Sweat outfits, socks, running pants and shirts are nice to have but the most important item is shoes. If necessary, skimp on other equipment and spend your money for shoes. A boy in a pair of running shoes immediately visions himself a Don Lash or a Jesse Owens.

3. Encourage boys to train outside of school practice. Many country boys who can not stay after school for training are willing to get off the bus a mile or two from school in the morning and run the remaining distance. Back yard jumping standards should also be encouraged.

4. Provide a worth while schedule of meets. In our case we are forced to meet schools with much larger enrollments than ours. We have been fortunate enough to win our share of first places. This added greatly to team and individual confidence.

5. Provide ribbons for all boys winning points in meets. The expense is not great and the returns in increased effort are large.

6. Promote an inter-class meet among junior high school boys. If possible, arrange an interscholastic meet for them. This not only prepares the boys for high school competition but gives the coach an idea of future material.

The high school coach should endeavor to secure participation in athletics by the greatest possible number of boys. Track has a decided advantage over other sports since the events are so varied and since it is largely an individual matter. This year more than 25 per cent of the boys are participating in our track and field program, including many who take part in no other athletic competition. From that standpoint alone I feel our experience has been worth while.

R. L. Hudson

Rural High School, Clifton, Kansas

AT the outset I would like to impress upon the reader that the interest mentioned here is just that, the interest on the mortgage of a good track program. It easily follows then that the amount of interest is predetermined by the capital on which it is based. A coach must know something of each of the events on the program before he can interest others in it. This point is often neglected in small schools where one man handles all athletics.

Any track coach has two big jobs, first to arouse the interest of the boy and second to maintain that enthusiasm. Here in Clifton our enthusiasm and success is increased by adhering to these basic prin-

ciples.

First of all after the first couple of week's work with the nucleus of the squad-to-be, we stage an inter-class meet. If this meet is timed so as to catch the buoyancy of the first attack of spring fever (and with it the urge to stretch and work those winter-stiffened muscles), every boy in school will be eager to compete. This is especially true if the coach is farsighted enough to aid the mediocre boy and limit the number of events for the veterans. I think it safe to predict that every boy entered will place in some event. If so, then the coach has aroused interest and with it the desire for more. We place this meet a week before our first inter-school encounter so as to strengthen the ardor carried over from the inter-class meet for this one. The first outside engagement is a small one, planned so that all candidates can earn a few points. Following this we enter a large meet where the competition is keen enough to convince the boys of the need for more work before our league meet.

We have found that the use of a list of local records gives the boys a better incentive to report. What if the best time is fifty-nine seconds for the 440? Post it and watch the boys try to break it.

Offering the boys an introduction to some of the events by placing jumping standards, shot ring, and a hurdle or two where they can be used in spare minutes before school and during noon hours will also prove beneficial.

Boys enjoy having or sharing responsibility. If the coach will encourage them to help in laying out the track and making field equipment it will instill spirit among the members of the squad.

No one enjoys punishment, and there is no doubt that most of the events are capable of inflicting punishment if the boy is not in shape. It behooves the coach then to consider the condition of the boy in planning his daily workouts. Here we usually start rather slowly, working only on form with relaxation until the boy is ready for competition. This includes competition in workouts as well as meets. In our timed workouts, and we employ a lot of them after the first few weeks, we always endeavor to shuffle the personnel of the group so that no one boy is continually winning or losing these practice heats. Please do not misinterpret this as a mollycoddling attitude of no work. On the contrary, we give the boy as much as he can handle. They enjoy the challenge of a good tough daily workout.

We believe that an hour profitably spent each day is plenty. This is one sport on the athletic program that does not require the boys to report promptly, in fact, we like them to string out their arrival so as to enable us to work with each boy individually every day. Of course, it causes the coach more work and more time spent on the field, but remember we are trying

to build a track team. Since track is very largely an individual sport it requires much more time with individuals instead of the accustomed group type of instruction. We try to offer a word of encouragement with the suggestions and council, not once a week or once a month, but every day to every boy.

Ninety-nine per cent of the boys who report for track do so with definite events in mind. We always hesitate to try and change that idea. I know most coaches are strong believers in their diagnostic powers, but if a boy reports for football we would not try to make a basketball player of him, would we? We operate on the theory that if his interest is in distance running that is what he will work the hardest on. At the same time, slowly and with caution, we try to sell the boy the event our appraisal specifies, but only in addition to the event of his choice.

In summary, let me suggest that the coach let his interest in the boy be felt, and it will magnify itself many times as it returns. After all, the enthusiasm seen in any group of boys is simply a mirror reflecting the coach's own attitude. Enthusiasm is the most contagious phenomena known.

Robert Elderdice

High School, Mardela Springs, Maryland

BY way of a preface to my remarks, I want to state that most of my ideas on coaching track are theoretical, rather than the result of actual experience, since I have had to devote my energies to baseball and softball. However, I have made observations and concrete plans for this year, when I hope to put into practice my ideas on the subject.

One cause for lack of interest is the absence of a track or suitable substitute. The boys seem to find it hard to visualize track a sport, when they just run. Also, there often may be an attitude to break down. High school boys are prone to hero-worship the local athletes who have gone before. If these boys did not engage very much in track, it may be looked upon as sissy or foolish. These observations, of course, do not explain a falling off of interest, but a continuation of a lack of it where interest has never existed. In Maryland there has been, perhaps more than in most states, a dearth of trained coaches. Generally, for the smaller high schools, track consists of a county track and field meet, with insufficient preliminary training and no follow-up, such as dual or triangular meets would provide. Maryland is swinging more and more to softball and the intramural idea of participation by many rather than a few. This, I think causes less interest in a field day because the boys get the fun of competition at their own school.

Some coaches in our county feel that intramurals, leading to inter-school com-

petition in track, have a wonderful opportunity to succeed now, and are making plans in that direction. Our school is so small that we have only two intramural units. Meets are to be held between these groups, with the proved best meeting those of other schools in dual meets. We hope to arrange at least one triangular meet.

We feel we can thus develop an interest in track, and then accomplish much more in the way of mastery of techniques. My experience has convinced me that a boy is bored with mastering fundamentals, even when they are vitalized, of a new sport unless the incentive is there. Having noticed how slowness hindered the success of my soccer and softball teams, I have drilled the boys in the proper use of arms, position of feet and swift starts. Success has not been too evident, but I believe this will serve as a basis for correlating interest in these sports with interest in track.

I have found that the bulletin board and the scrapbook help develop and maintain interest and direct it along increasingly technical lines. I have made pictorial scrapbooks for all the major sports and have used them with some success as instructional aids. We are planning to use a simple award system and post pictures and records of our local record holders.

It is suitable, I think, to mention some of the difficulties we in the small high schools face. There still are not enough men coaches to take care of both softball and track, and often there is not enough material for both. Our plan this year is to try to run both softball and track during April and concentrate on track in May. Also, we have only one hour a day.

Let me repeat that my remarks apply only to most of the small high schools in Maryland, where interest in track never has been high, and where the state-wide program still is based on the one day a year county field meet plan.

C. A. Bisel

Consolidated School, Lynd, Minnesota

LYND is one of the hundreds of small high schools in our nation with an enrollment of less than seventy students. High schools of this size find it difficult to be worthy competition in athletic events and contests unless all available material is brought out and developed. It seems to me, after coaching at Lynd for ten years, that the greatest necessity in the successful sponsoring of an athletic sport, is the securing of interest in that field. We definitely made track our major spring athletic activity. Boys interested in competitive athletics sign up for work. We have on an average, twenty-five boys in our high school, and our track squad usually runs from ten to fifteen boys.

We entered our first district track meet six years ago. Imagine our surprise when our boys came home with gold, silver and

bronze medals signifying their success in various events. Each year since, boys from our little school have been consistently winning their share of honors. Our school now has a fine display of trophies and medals all won in track. These have secured interest and admiration on the part of our own as well as visiting athletes.

Equipment is a major problem with us. We solved this by buying two pairs of good track shoes each year and one good piece of equipment. This year we have purchased a fine aluminum vaulting pole and our boys will enter this event for the first time in our spring meets.

Developing material and getting boys out for track present difficulties in many schools. I have often heard a coach say that his boys did not seem to be interested in track, or as in neighboring schools, the boys went out for track for two weeks and then decided to play baseball, and so it goes. We have motivated track interest by having our junior high school physical education classes devote four weeks to track and field events climaxing this training with a junior high school meet. We give the boy earning the most points a small medal. This helps us discover material, creates interest and is lots of fun.

We emphasize the fact here that track is an individual sport and a boy can go as far as he wishes in his own development. We have boys who jump off the school bus a half mile out of town and run in to build up wind and stamina. Some of the boys take the shot and discus home for the summer months and work on these events. I could go on indefinitely with similar experiences. It is sufficient to say, however, that small schools in this country can make track a profitable and interesting branch of their athletic program. It means work and patience. Try it once for all it is worth and I am sure it will pay dividends and give many boys fine experience.

Stephen Childress

High School, Archie, Missouri

I REPRESENT a school with an enrollment of one hundred and twenty-five. In my opinion one of the first things necessary in building interest in track is for the coach to be interested. A lack of interest on the part of the coach is one of the causes for the decline of interest in track.

In building interest in track I point out the fact that track serves as a stepping stone to other sports. A good track man has a better chance to make good in other sports.

The fact that track is more of an individual sport appeals to boys. Because developing a track team does not depend upon the judgment of the coach as in other sports that is a point in its favor. When the tryouts for a meet are held it is not a matter of judgment of the coach but ability of the individual.

I secure all the literature, pictures, and

records on track, the best records made by the students of our school, world records, county records and state records. These are posted on the bulletin board together with newspaper clippings of the meets we participated in the year before so that the boys can study them and see their possibilities of winning.

We arrange as well as we can so that there will be no conflict between track

and other interests which the student might have.

Getting the best equipment possible will help add to the interest in track as in any other sport. In the summer months the boys are permitted to take home some of the equipment such as shot, discus, pole vaulting poles and hurdles.

In the early part of the track season a class track meet is held. This meet en-

ables me to select likely prospects and stimulates interest among the boys. The meet is held over three or four days allowing an individual to participate in several events.

I like to develop private contests between boys. This helps to stimulate interest and get them in shape without their realizing it. The duals between individuals
(Continued on page 30)

Making Track Pay

By James D. Kelly

Track Coach, University of Minnesota

MAKING track pay has always been a special hobby of mine. Consequently I am pleased to pass on a few hints that we in Minnesota have found successful in promoting the National Collegiate Athletic Association Track Meet.

Educating the Populace

First of all the populace of the community must be educated in track as it has been in other sports. We found a population that will support school and college athletics of other types can be made to support track as well if the proper educational work is done.

We went to work at the very bottom of the sport by pointing out the origin of track and how the sport has changed to its present status. The American people are noted for their likeness in comparing present with former events. Because of this peculiarity thousands of Americans pore over baseball record books. Track is another sport that readily adapts itself to comparison. Consequently we found that records of former meets, compared with present meet records, form interesting reading.

We also secured the films taken of previous National Collegiate meets and showed these at all the luncheon clubs and neighboring high schools in the surrounding territory. In this connection, luncheon clubs are always on the lookout for free entertainment and would welcome the opportunity of seeing a track movie with a short talk on track. It would be well to have members of your track team stationed at the doors with tickets for sale. We found that the pictures of the pole vault and high jump aroused the people the most.

A Co-Operative Press

It stands to reason that this is a decided necessity. The smaller communities are more fortunate in this respect than the

larger metropolitan areas where the press is apt to be more inclined toward the professional sports. Here again we are very fortunate in the Twin Cities in that our papers are strongly amateur sports minded and co-operate 100 per cent on publicity.

Track is fortunate in that it comes at a time of the year when national sport news is limited more or less to flashes from the southern training camps. We found that a good many sports writers welcomed material on track with which to help fill their pages.

Before the meet we started on a campaign of building up the various contestants in the meet by supplying the papers with their pictures and the best times and distances they had turned in to date. Just prior to the meet itself it is well to prepare a style sheet on which the various place winners are listed and an estimate of the winning time or distance is given. In this connection it is interesting to note that the Western Conference does this before their meets. Since track runs pretty much to form you will be surprised at how close you will come on predictions. You will also be surprised at the number of people who will turn out to see if your predictions are wrong.

Finally, the predictions will educate the populace, in that they will know who is running and who is supposed to be good.

Hard Working Staff

Lastly the coach and athletic director must get whole-heartedly behind the effort. It stands to reason that without the initiative of an enthusiastic individual, the program will be a failure. At Minnesota we used our entire staff. Our ticket office circularized the football mailing list with pictures of competing players and various bits of information.

In secondary schools the letter men's club and similar service organizations can be given the job of handling the ticket sales. In many secondary schools contests are run on football and basketball ticket

sales. A like procedure should be followed in regard to track.

Conducting the Meet

I should like to pass on a few suggestions for conducting the meet that we have found makes it more enjoyable for the spectators and will, of course, cause them to come back for second, third and fourth meets.

Of primary importance is the fact that the meet should be run off swiftly and on schedule. The spectators want action. In this connection it is well to point out that Western Conference football officials are continually being checked on the speed with which they run off a game.

It is well to start some of the field events prior to the first race so that they will finish while the running events are still in progress.

We found at Minnesota that by not placing any spectators in the first four rows of seats the angle of vision was greatly enlarged and consequently the rising for a finish was kept at a minimum.

One of the particularly objectionable practices is to flood the field with officials. We attempted to keep the officials assigned to their posts and forbid the clerks of the course to crowd up at the finish line. At Minnesota we tried a new arrangement for the finish judges. A stand was built on top of the stadium in which one set of finish judges were placed. The other set were placed in the stands right by the track. Movies showed that the pickings of the two sets were just about on par.

We placed our field events well apart and away from the finish lines. We found that this prevented many field men from crowding the finish line.

In conclusion I wish to say that the above suggestions worked out for us in the National Collegiate Meet at Minneapolis. In the Twin Cities where track interest was at a minimum we succeeded in getting an \$8000 advance sale and about the same figure for gate sales.

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Athletics and National Defense

WE have written many lines in the ATHLETIC JOURNAL in the last twenty years and especially in the last six months on the question of the relation of health education and physical education to national defense. Judging from the inquiries we have received regarding various phases of this question, there is considerable interest in these matters and, consequently, we are attempting in this editorial to transmit what information we have as of March 22nd, 1941.

First—Athletics in the Camps. In the last war, the War Department established the War Camps Training Activities Commission under the general supervision and direction of Mr. Raymond Fosdick. One of the branches of the Commission was the athletic branch. When the men were called to the cantonments in 1917, some 75 or more college athletic men and professional boxers were sent to the camps to carry on a program of athletics. The head man in each camp was assigned as civilian aid to the Commanding General. Later, a few of these civilian athletic directors were sent to a special training school at Camp Gordon and were commissioned as Specialists with the rank of Captain.

One significant thing in connection with the general plan was that athletics were looked upon as an adjunct of military training. Physical efficiency tests were held in many of the camps and it was found that a surprisingly small number of the enlisted men could pass minimum requirements as to running, jumping, climbing, and throwing. The commanding officers and chiefs of staff knew that fighting men needed to be able to do all of these things and do them well, if they were to be efficient units in the army.

It is true that the men assigned under this branch of service in the camps had something to do with the athletic entertainment furnished the troops; that is, these athletic officers promoted boxing and wrestling shows, organized camp football and basketball teams and the like, and in many of the camps

staged military and athletic tournaments.

Following the war, the Training Camps Commission passed on some recommendations to the regular army, one of which was that in the next war the army should handle these activities itself. That recommendation is now being followed. Whether it will be necessary later to call on civilian athletic men, no one can say. We do know that the army wants men who hold reserve commissions or commissions in the national guard or in the regular army and who have had training in administering athletics to let the facts be known.

Second—Town and Community Programs. Aside from possibly 100 to 200 men who may be needed to man the most important positions in army athletic work, there is going to be a demand for men who have had school and college athletic training to assist in the recreational programs in the towns and communities adjacent to the camps. The Federal Security Agency is interested in this phase of the work. Mr. Paul McNutt, former Governor of Indiana, is at the head of this agency. Mr. Mark A. McCloskey is Director of Recreation, Federal Security Agency, Washington, D. C. He suggested that anyone who feels he is qualified to do this work and is interested in this phase of the defense program might write Mr. McCloskey, sending an outline of qualifications.

Third—Physical and Health Education in the Educational Institutions. The Commissioner of Education on behalf of the Office of Education, Washington, D. C., recently asked a number of men to meet with him to make suggestions as to how the Office of Education might assist the schools and colleges in the work that they are doing and possibly in connection with work that should be instituted but that is not now being carried on in the interests of physical fitness and national defense. This is significant, if for no other reason than because it indicates that the Commissioner of Education and his associates are interested in the physical education work being done in the educational institutions as a part of the general preparedness program.

It is our considered judgment that the schools and colleges will not be asked to abandon their athletic programs during this war crisis. At the time of the last war, the Secretary of War, Newton D. Baker, especially requested that the colleges continue their athletic programs. It is reasonable to expect that some authority in Washington will this time make a similar request. Whether this happens or not, the fact remains that our country is looking to the school and college athletic men to do everything possible by way of making America fit for what lies ahead.

In addition to improving and increasing the extent of the work now being carried on with the boys and girls who are enrolled in the educational institutions, may we suggest that there is a great need for assistance on the part of these men in connection with community programs. One means of helping in community athletics and recreation is by and through the American Legion. The Legion has adopted a definite program designed to spread the community recreation idea throughout the country.

Another way is by attempting to make people of each community recreation and athletic conscious. This can be done by the coach in writing for the local newspaper, by speaking before community clubs, and by constantly calling attention to the need of strong men and strong women in times such as these. Further, one of the best ways of developing the morale is by and through the conduct of athletic sports. Many of our school and college coaches will be in the army and navy before this war is settled. Others will assist with the recreation programs in the different towns and communities. Still others will carry on work with the thirty million boys and girls who are enrolled in our educational institutions. All of this work is tremendously important and every man who does his best in any of these capacities may have the satisfaction when it is all over of knowing that he served his country in time of need.

The Blood of America

MANY articles have been written in recent years regarding the alleged superiority of this, that, or the other race. We very seldom, however, hear anyone speak about the blood of America. Probably this is because of the many racial mixtures here in United States. Sports writers frequently comment on the fact that so many boys with foreign names compete on our different school and college athletic teams. Of course we draw no line of distinction between those of foreign or native birth. These boys of foreign extraction, for the most part, spring from parents who had nerve and initiative, parents who preferred adventure to security. Back home they could have experienced a certain kind of security, no doubt. The prisoners in our penitentiaries have both social and economic security as long as they are incarcerated. These boys who are playing football on our university teams and whose parents are comparatively new in this country have, for the most part, learned what it is to struggle for an existence. Their children, likewise, have perhaps found that living was easier in the United States than it had been for their parents back in Europe, but still they do not live easy lives. Some of our best athletes are these lads who may properly be classed as new Americans.

At the time of the last war, a report of a German officer sent to the German Intelligence Department, after interviewing some American prisoners, fell into the hands of certain Americans. This report read as follows:

"The quality of the men must be characterized as remarkable. They carry themselves well and are well developed and from eighteen to twenty-eight years of age. Only a few of the men are pure Americans by race. The majority are sons of foreign parents. These half-Americans, most of whom were born in America and have never before seen Europe, expressed without hesitation purely American sentiments."

The Indians are the only pure native stock. All the rest of us are immigrants or descended from immigrants. We have learned, however, that there are some things over here that are different from things over there. The American way of life is being beautifully exemplified in our school and college athletics. This is a fact that we should never forget.

National Defense and Athletic Equipment

SINCE our front page editorial appeared on this subject in the February issue, we are happy to announce many reports are coming in that schools are already ordering their equipment for the school year 1941-1942.

One of the athletic directors of a large mid-western university stated when he placed his order that they figured prices were as low as they would be and they might go higher. This was exactly the way we looked at it and, consequently, urged you to buy your equipment earlier this year.

The majority of the manufacturers of athletic equipment were farsighted in that they were able to go out last year and buy considerable quantities of raw materials. These supplies are rapidly being exhausted, and this will necessitate the manufacturers going out into the open market to purchase the balance of the materials needed.

The reports are that a rising price is being encountered throughout the raw material market. Deliveries are very slow and orders are taken only on the condition that they will not have to be made before 90 or 120 days. Goods that cannot be delivered until August will, of course, arrive too late for football use.

Since our editorial in February many events have transpired in relation to athletic equipment, the most noticeable being the commencement of priority buying by the government. Aluminum, magnesium and alloy steels are already on the priority list. These materials are important in sole plates and cleat fixtures for shoes as well as necessary parts for machinery. It is also believed that cotton yarn will be added to the list. There are hundreds of thousands of bales of cotton available but the spinners working twenty-four hours a day cannot turn the cotton into yarn fast enough.

These materials on the priority lists can be secured but deliveries are slow as all government contracts must be fulfilled first.

All the manufacturers have gone on a forty hour week. This means that the period between April 1 and August 1 has been lessened by approximately eighteen work days. In an industry as specialized as the sporting goods industry has become, eighteen work days are a big factor.

The problem then is a matter of time, and as such, we again ask you to check the boys' sizes, select the material you will need and turn your order in immediately.

Baseball as Taught at the Louisville Baseball Clinic

By M. W. (Bill) Neu

Baseball Coach, Male High School, Louisville

In the first four lessons which appeared in the February and March issues, I outlined the instructions that our leaders give to batters and pitchers, also how to play the outfield, how to bunt and how to play first base.

Lesson Five Second Base Play

The second baseman is the middle man in the line of strength needed for a good ball team which includes a good catcher, good pitcher, a smart, clever second baseman plus a fast center fielder. Of course, one would say, what about the other positions? The answer is simply this—you do need top-notch men in those other five positions, but if you were to check the successful teams, you would find this center line filled with skilled players.

The first of several essentials of a second baseman is the ability to team with the shortstop. Many ball clubs are handicapped by this failure of short and second to work together even with expert, individual players in these key positions.

Quick thinking is required—when to cover the bag and when to let the shortstop cover it. The second sacker fields all balls hit between second and first except those hit toward or close to the first baseman. However, he should start toward any ball hit in the first base area should the first sacker elect to cover first base instead of fielding the ball. Many errors in judgment could be avoided if the second baseman would call instructions to the first baseman who is to field the ball.

Ground balls causing the second baseman the most trouble are those close to or over second, and very slow hit balls past the pitcher. The first requires three things—*speed* in getting to the ball, *ability to field*, and *to throw* with a side arm motion. The second requires a fast take-off, a side under-hand throw while running at full speed.

The difference between a good second baseman and an excellent one rests not only in his ability to judge the probable direction the batsman is going to hit the ball but also in his ability to remember the average alleys in which the various batsman hit.

The second sacker's most important back-up duty is to cover first when the first baseman is pulled in to field a slow-hit grounder or a bunted ball.

The second baseman also teams with the

catcher on cut-off plays with the first baseman pulled in for probable bunts should the runner venture too far from the base.

Speed in foot work and ability to throw from any position are very important if one is to become an expert double-play man; therefore, fundamentals on this phase of the game cannot be over-emphasized. On plays that require a long throw preceded by a pivot, a side-arm motion should be used. On plays that require a pivot near the bag (usually on short throws to second base), the ball should either be tossed or flipped under handed.

For instance, a play calling for this first group of fundamentals is used on hard-hit balls to the second baseman's left. He starts fast, makes the stop in a stride with his left foot forward, pivots right backward from the left foot and throws side arm to second base.

It is very important not to make a complete turn—merely a half turn is all that is needed preceding the throw. The second listed fundamentals would be used when ground balls are fielded close to second. These should be thrown with a counter-clockwise twist of the wrist rather than an underhand toss. The important thing to remember is to throw the ball chest high, preferably to the inside corner of the base but not too hard, because usually the shortstop is approaching at full speed.

The second baseman acts as relay man on long flies or long hits to right or right center. On short flies or short hits to these fields, he covers second with the shortstop backing him up. When balls are hit to left field, the second baseman backs up second if the shortstop covers, or the second baseman covers second if the shortstop acts as relay man.

In the event that the second baseman is forced to leave the bag, the first baseman must cover. The player with the strongest throwing arm usually acts as relay man on hard hit balls to center.

The baseman who covers on attempted stolen bases depends upon the kind of pitch to the batter. For instance, the second baseman, after observing the catcher's signal to the pitcher, signals to the shortstop signifying who is to cover the base. Should the catcher signal for a fast ball on the outside corner to a right-handed hitter, the probable direction of the hit would be toward the second baseman; therefore, just before the pitch the shortstop is signaled to cover the base at the proper time.

Many beginners, seeing a base runner attempting to steal, make the mistake of leaving their fielding position before the ball passes the batter. This allows ground balls that should have been fielded for an easy out to pass through their positions for safe hits.

In covering the second base, the player should be swift to straddle the base with a half turn toward first. The catcher's throw should be knee high over the first base corner of the bag, then with the ball securely held in the glove hand, he should drop the glove quickly between the bag and first base. This makes the stealer put himself out. Swiftness in tagging base stealers often turns a catcher's bad throw into putouts. The danger of being spiked should be eliminated since the legs are spread to give the advancing runner a free passage to the base.

Skill in pivoting from second while covering or receiving throws from other fielders to avoid advancing base runners is attained only after hours of hard practice. This skill was very well pictured in the February issue of the *ATHLETIC JOURNAL*.

The second baseman and shortstop should drill in holding runners close to second base.

Drill on individual fundamentals cannot be overdone. Master these then practice team work. Do not become too game conscious but rather spend a portion of each play period in perfecting our individual fundamentals, which include fast fielding, quick and accurate throws from any position plus the alertness to cope with play situations.

How to Play Shortstop

Experienced baseball men will tell you that shortstop is one of the hardest positions to play. A good man at this post can make the infield.

To be a good shortstop, one needs a strong throwing arm and the ability to throw with any kind of motion from any position. He must be able to be quick, mentally and physically. He must be agile, have courage and willingness to cooperate. He must be a keen student of the hitting strength of rival batters.

The fielding fundamentals are the same as for the other three infield posts. One must be able to be a sure fielder with the ability to throw to the right spot. Skill in footwork is very important. He must

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And

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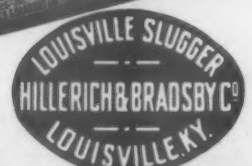


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Study these pictures of Joe DiMaggio stepping into a fast one. These were taken from the American League's current baseball motion picture.



1



2



3



4



5



6



7



8



9

master the art of covering a base and the various pivots necessary. On hard hit balls it is a pretty good idea to get in front of the ball and have the heels touching so as to prevent the ball from going through you. On balls that you have to approach, practice fielding the ball off the right foot with the left foot in a normal stride forward. This position enables the fielder to get the ball away faster with either an overhand or underhand peg.

The defensive stance is the same as for other infield positions. The player should stand with feet spread comfortably, the weight on the balls of the feet, hips low, head up, hands resting on the knees. As the ball approaches the batter, the weight of the body is shifted on the toes to assure a quicker start. If the ball is not hit, the player can resume his original stance.

A listless ball player has no place on the team. The shortstop should be the peeper-box on the club.

Emphasis has been placed on the shortstop teaming duties with the second baseman and in continuing the discussion, let us point out that in the event the shortstop starts the double play at second, he must throw the ball in whatever position he fields it. Not only must he throw quickly and accurately but also he must make a split second decision, with runners on first and second, as to which base he should make the play.

He must be an expert in backing up both second and third base. When backing up second base, the shortstop becomes the relay man, as he does on long flies or deep hits to left or left center. The other fielders instruct him as to where to throw the ball.

The shortstop teams with the pitcher in holding men close to second base. A favorite way to trap the runner on second is to team up with the pitcher and second baseman. First one, then the other makes a break for the base. The runner will leave the base with the fielder and on prearranged count, the pitcher whirls and throws directly at the bag with one of the men covering the bag.

Shortstops generally field all fly balls back of third base and short flies to left or center field.

Lesson Six Base Stealing

Yearly discussions are led by sports writers concerning the question of stolen bases. We wonder what the baseball fans think about it. Does the runner steal the base on the catcher or does he steal it on the pitcher? Frequently, when a team is running wild on the bases, you hear such remarks as, "They'll steal the shirt off that catcher's back if they keep that up," and it may not be his fault at all.

Being a catcher myself for several years, I have learned that runners steal the greatest number of bases on the pitcher and not

on the catcher. Occasionally catchers are handicapped with bruised fingers or sore arms, thus many stolen bases may be attributed to their inability to throw accurately until this handicap has been overcome.

An alert base runner will be ready to take advantage of any false-move or any tip-off the pitcher may make, thus enabling him to get from a two to three step lead toward his base, which is often the margin between a successful and an unsuccessful attempt. Some of the slower men in baseball have a very good stolen base record because they can get a good start and have a good finish.

In the last World Series, Jimmy Wilson, Cincinnati Red Coach, a relatively slow runner, stole second base at a crucial period which, in the writer's opinion, broke the morale of the Detroit Tigers.

The best time to steal is when the pitcher is in the hole where he is forced to pitch a strike to the batter. This prevents the catcher from signaling for a pitch-out which gives him free movement from the batter in order to throw to second.

Take a good lead and draw as many throws as possible; this tends to tire the pitcher; and another thing, a bad throw means a probable advancement.

To steal third requires an extra long lead off second because of the short throw from the catcher. This lead is allowed through the carelessness of the shortstop, second basemen, pitcher and catcher.

Runners of average speed often steal home if the pitcher uses a long wind-up; others steal home when the catcher carelessly lobs the ball back to the pitcher after a delivery.

Many of the fastest runners make poor base stealers because they lack alertness, the inability to get a lead, to get a fast take-off and to finish with a slide away from the ball.

How to Run Bases

A player becomes a baserunner at the instant he leaves the batter's box; for that reason, *hit* the ball and *run* at full speed until you have crossed first base, rounded it or have been thrown out.

Only two people—the umpire and the base coach—should cause you to slow down or stop.

The difference between alertness and hustle is the difference between a good and poor base runner. Top-notch baseball has no time for a player who half-heartedly runs out batted balls which he thought to be an easy out only to see an infielder bobble his drive too late to prevent a put out. One occasionally observes a runner slowly jog to first after hitting what he thought to be single, only to see, too late for an advancement, the ball take a bad bounce or an outfield error.

The hustling player, upon contact with

any ball except those which plays are made on him at first base, starts his circle 25 to 30 feet from the base, going four or five into foul territory in rounding towards second. He should hit the base with the left foot by crossing over the right foot which starts him on a straight line toward second. Should the outfield err or slowly field the ball, a single may go for extra bases. Of course, alertness puts one ready to pull up and return to the base if the ball is caught and relayed quickly to the second baseman.

When running to first on the infield play, run at top speed in a straight line across the bag and listen for instructions from the coach, whether to return to the base or continue on to second in the event of an overthrow.

Rounding second and third is the same rounding fundamental as that at first. The main point to keep in mind is to cut the distance between bases to the minimum, keeping the speed at the maximum.

Tagging up after fly ball catches requires team work between the runner and coach. For instance, with a runner on third base, a fly of normal distance is hit to left field, the runner places either foot against the base facing home plate. The coach signals the runner to leave the base as the ball contacts the fielder's glove. Scoring after a catch is one of many means of reaching home after safely reaching third. Be alert so as not to be caught napping and do not pass up opportunities to score but do not take undue chances because in close ball games runs are hard to get.

Cut-Off Methods

The use of the cut-off depends largely upon the strength and accuracy of the throwing arm of the catcher, second baseman and shortstop, coupled with the alertness and quickness of this trio. The methods listed could be used with runners on first and third bases, and the runner on first attempting to steal second.

1. After the ball passes the batter, the shortstop runs from his post to a position about midway and in line with the pitcher and second base, while the second baseman covers the bag. The second baseman calls to the shortstop to cut off or let the ball come to him, depending upon the play of the runner on third base. Should the runner on third start for home, the shortstop cuts off the ball and relays it home. If the runner, after starting, sees the throw cut off and tries to return to the base, a quick relay by the cut-off man to third often nips him on his return to the base. However, should the runner on third make no attempt to double steal, the ball is allowed to go through to second base to the waiting hands of the second baseman.

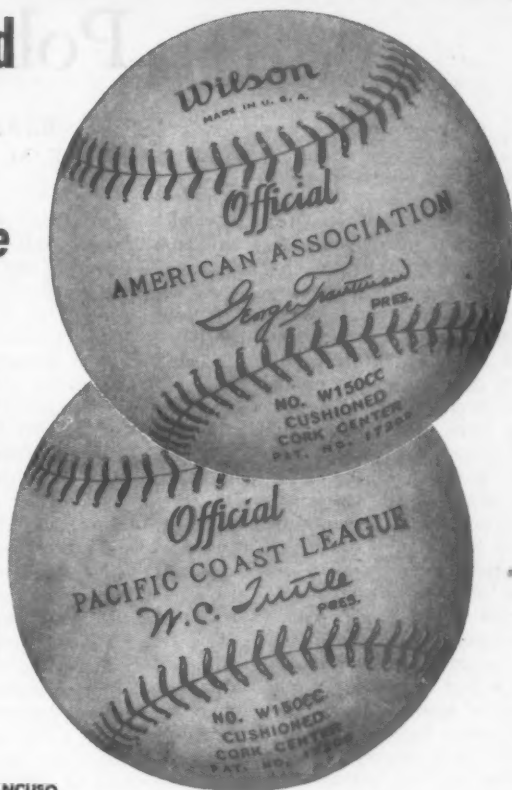
2. This same process could be reversed with the shortstop covering second and
(Continued on page 48)

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A Mechanical Analysis of the Pole Vault

By Richard Victor Ganslen
Central Y. M. C. A., Roanoke, Virginia

EACH year an estimated 5,000 high, prep school and college boys attempt to master the pole vault event, yet never is there a single season when more than ten or twelve of the top vaulters better fourteen feet. The average winning performance in the majority of small college meets seldom exceeds twelve feet. We cannot say that these boys do not want to jump higher, do not work hard enough, or just lack innate capacity. In the majority of cases the caliber of the coaching in the pole vault event is, in general, weak, with the result that many boys arrive at college with certain faulty neuro-muscular patterns which even the most capable of coaches must spend years correcting. Many young vaulters give up vaulting at a stage in their development when success is just around the corner. The majority of world ranking pole vaulters in competition today have spent from ten to twelve years in mastering the event and few are crowned national champions before twenty-three or twenty-four years of age.

This article is the result of over two years of concentrated study of the pole vault event. These few pages are an abstract of a three hundred and fifty-page thesis on file in the Springfield College Library.

The results of the research have been compared with the opinions of outstanding vaulters and coaches in the United States. Such notables as Earle Meadows, Olympic champion, Cornelius Warmerdam, world outdoor record holder, Bill Sefton and Kenny Dills have contributed much valuable information from the experienced vaulter's point of view. The writings of Dean Cromwell of Southern California, Frank Hill of Northwestern and Carl Merner of Columbia have given much from the coaches viewpoint. Dr. T. K. Cureton of Springfield College and Dr. C. H. McCloy of Iowa in the mechanical and kinesiological research field have contributed much from the mechanics viewpoint.

The Problem

The elimination of guesswork and opinion from coaching is basic to more efficient coaching and teaching procedure and an improved caliber of performance

in athletics. A careful survey of the literature indicates that there are many aspects of the technique of the pole vault event upon which coaches disagree. As a result of these existing differences of opinion concerning these techniques, the athlete becomes greatly confused while attempting to learn the skill, and not only is his progress slow, but he frequently develops faulty techniques which cannot be easily corrected. Not only will these faulty techniques directly affect the quality of the performance, but they may also cause unnatural structural strains resulting in excessive fatigue or possible injury.

The standards for athletic form have in the majority of cases been established on a basis of observation. Progressive modifications of technique designed to produce a higher caliber of performance are the result of highly individualized effort and are not generally known.

Dr. T. K. Cureton has summarized the philosophy of scientific research in the field of athletics very appropriately as follows: "From a careful analysis of both internal and external factors, many coaching principles can be derived which are based upon mechanical laws. Coaching theory will ultimately have to align with the principles which are based on laws."

External Mechanics

Speaking in the light of known principles in the field of mechanics, within certain limits it may be possible for a man to perform a given skill without the good application of the laws of mechanics because of certain physical characteristics of the individual. However, the efficiency of any effort along athletic or gymnastic lines depends upon a close adherence to the basic principles of mechanics.

Internal Mechanics

The ability of an individual to control himself in an event which is as complicated in its action and as delicate in its timing as the pole vault is a problem of internal mechanics.

Brutus Hamilton of the University of California estimated that the pole vaulter executes thirty-five separate movements before clearing the bar. The investigator found that the average elapsed time for jumps between twelve and thirteen feet

is approximately 1.04 seconds, varying somewhat with the speed of the run and pull-up. Quite obviously then a fast reaction time is one of the primary physiological requisites of a topnotch pole vaulter. Many potential vaulters may have the interest, energy, strength and general structural aptitude for the pole vault event, but are lacking in a fast reaction time. They lack the innate capacity for achievement.

Through careful training the athlete can improve his flexibility, strength, endurance and explosive quality of his muscles. Certain neuro-muscular patterns can be learned through practice. This makes it possible for the athlete to concentrate on his weakest points during the competition and literally forget the more general phases of the action. A topnotch athletic performance is more than this, it is the result of a smooth integration of all of the factors, physiological, psychological and mechanical.

Techniques of Analysis

The majority of movie films of top ranking pole vaulters in competition are taken from the artistic point of view. For exact mechanical analysis these films are of little value but they serve a great need in the approximate comparison of techniques.

Inasmuch as the average movie camera is inconsistent in its running speed, due to its mechanical nature, and subsequent wear and tear, it is necessary to check the speed of the camera carefully to compute velocities accurately. By photographing the fall of a baseball to the ground from a measured distance, it was possible to compute the speed per frame of the camera by applying the "law of falling bodies formula," which will provide the elapsed time for an object to fall a known distance. Then, by dividing this figure by the number of film frames it took the ball to touch the ground, the time per frame could be calculated.

Because the camera was set at right angles to the path of motion of the jumper and objects of a known size were included in the area of vision, it was possible to measure movement in the films during projection in terms of centimeters and by changing this figure into feet the velocity of the vaulter or pole could readily be

determined. Angular measurements and the displacement (change in distance between the vaulter's hands and center of gravity) could be taken directly from the projected image.

Measures Selected

The factors considered of greatest importance in the study of the pole vault were selected on the basis of their specific importance as they affect the success or failure of the jump. The criteria for the selection of these items included the opinions of outstanding pole vaulters and coaches and the emphasis placed upon these specific factors in the literature. Measures taken were: run velocity, length of last two strides, elbow angle at the take-off, take-off angle, take-off velocity, pole angle at the take-off, location of the hand-grip, displacement of center of gravity to center of rotation throughout the jump (hand-grip to C of G), speed of the pole, angle of the pull-up, angle of the turn, angle of the push-up, pole angle at the push-up, velocity changes of the vaulter from frame to frame of film, height center of gravity raised and path of the center of gravity.

Outstanding Points of Controversy as Selected from the Texts and Replies of Noted Authorities

In summarizing the results of the research the writer will attempt to supply the answers to some of the following questions which have come in for more than their share of discussion in the pole vault. Evidence to substantiate or refute the theories will be presented insofar as possible.

How should the pole be carried for maximum efficiency in the run and shift? How closely are speed and performance related? Should the vaulter swing or spring from the ground? How far should the arms be extended at the take-off? What should characterize the action in the various phases of the vault? When should the hands be shifted? What constitutes mechanical efficiency in the execution of the movements? When should the different phases of the action in the pole vault be executed? How high can a vaulter grip the pole and still vault? What is the most efficient clearance style? How high can man vault?

The Complex Pendulum

The pole vaulter in executing his jump is converting linear to angular motion by exerting force on a movable support which is free to rotate around a fixed point at one end while the vaulter's body is free to rotate his point of support. This is the point on the pole where the hands are grasping. From a superficial analysis one might be tempted to conclude that the

vaulter is using the principle of a simple pendulum, but as the point of support of the pole is not fixed, the problem becomes considerably more complex in character. In short, the pole vaulter is a pendulum on a pendulum. (See Drawing 1)

In actual operation the pole vaulter is a pendulum, free to rotate around a point

C, the center of rotation, while the pole itself with the vaulter on it is a pendulum, free to rotate around a point A. The vaulter D has a velocity which has been created during the preliminary run. The pole AB has a velocity XY which is the result of the pole plant and the up-swing of the vaulter on the pole. This velocity makes it possible for the vaulter to swing up to the bar as a result of the interchange of momentum which projects the vaulter upward and forward in a smooth curving motion. If the pole were incapable of movement around point A the vaulter would be swung in an even circle around his hand-grip, there being an exchange of momentum which makes possible the vault. The tendency of the body to fly away from its center of rotation (centrifugal force), is utilized, by certain modifications of technique. This makes it possible for the vaulter to not only bring himself to the height of the bar, but to raise the body above the hand-grip. To execute his jump then, the vaulter utilizes the principles of periodic motion of pendulums in a practical fashion.

Inasmuch as the inertia of a rotating body is dependent not only on the mass of its parts, but also on their distribution from the center of rotation, it is easily understood that the height of the hand-grip and physical characteristics of the vaulter will greatly affect the mechanics and timing of the vault action.

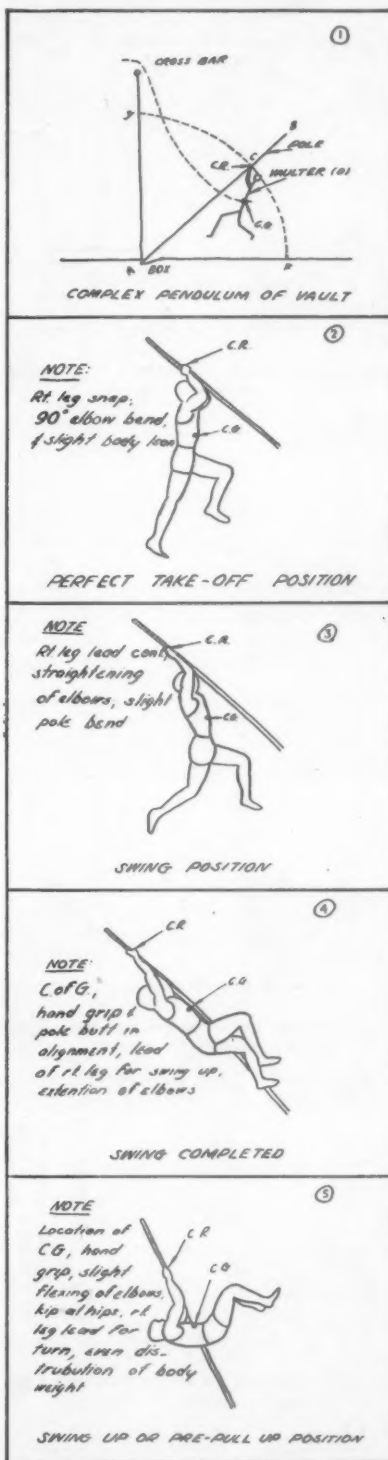
Results of Research Pole Carry

In order to check the efficiency of the different pole carries a relatively simple procedure was followed. Two lines were drawn on the track fifty feet apart. Midway between these lines and some distance to the side a timer was stationed with a stop watch. A vaulter was then asked to run through these lines at full speed from a flying start using one of the three major pole carries. Each subject repeated this fifteen times, spreading the trials over a considerable interval to eliminate the fatigue factor as much as possible. The following figures were obtained.

Average Time in Seconds					
Trials	Carry	A	B	C	D
15	high carry	2.2	2.	2.	2.
15	medium carry	2.	1.8	1.8	1.8
15	parallel carry	2.1	1.9	1.9	1.9

In all of the cases the vaulters using the medium pole carry (pole tip at thirty degrees or head height) ran the fastest. A vaulter who is traveling 2 of a second faster over a fifty foot distance is running approximately three feet per second faster.

The choice of the pole carry is based upon, 1, a position which compensates for the weight of the pole to a moderate degree; 2, a position which allows for the maximum speed in the execution of the shift into the box. The medium pole carry, meeting both of these requisites, resulted



in a much faster approach in all of the subjects tested. It was observed that the majority of vaulters using the medium pole carry begin to lower the pole toward the box in the last few strides of the run. It was also discovered that in every instance, the vaulters using the "parallel to the ground carry" spread their hands a greater distance on the pole.

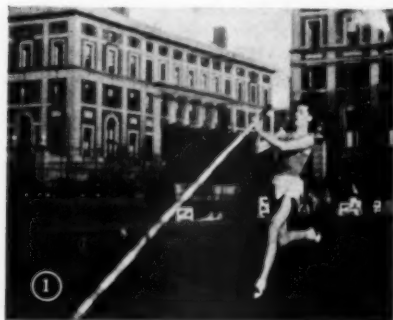
The pole carries as employed by some of the nation's top ranking vaulters are as follows: Meadows, medium; Sefton, medium; Warmerdam, medium; Dills, medium low; Ganslen, medium low; Day, parallel; Padway, parallel.

Style in the Approach

Some mention must be made of the tendency of many vaulters to punch the pole, that is, during the run jab the pole backward and forward. Not only does this jabbing tend to disturb the smoothness of the run, but many times the vaulter will arrive at the box with the pole at the wrong end of its swing and it will either hit the box prematurely, jerking the vaulter off of his feet or too late to make an efficient spring. The pole should be carried steadily without punching. The shoulders should face squarely to the front of the crossbar by rotation of the rear arm and not through rotation of the trunk. The rhythm of the run and body should originate with a slight swinging of the shoulders but at the point of take-off the shoulders should face squarely to the crossbar as shown in Illustration 1.

Run Length

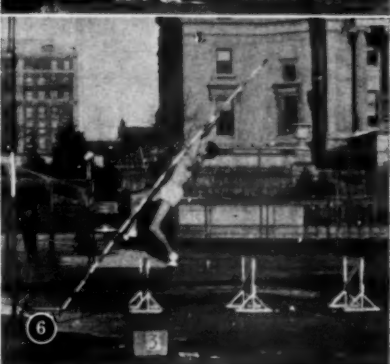
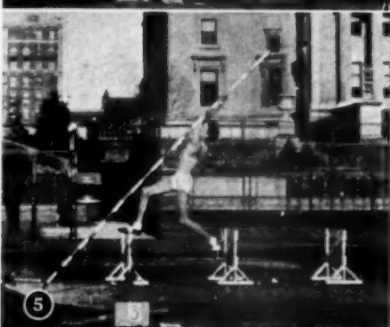
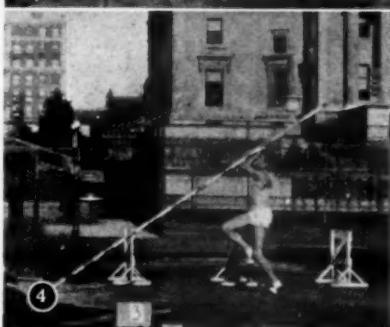
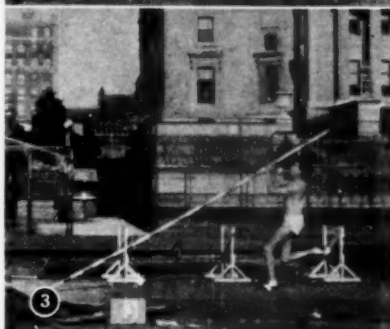
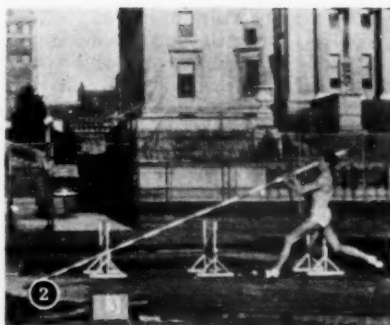
The length of the run is of little importance except as it contributes to the development of velocity. As a general rule the length of the run varies from ninety to



Illustrations 2 to 6 show Ganslen's take-off mechanics as seen from direct side view.

Note the body facing square to the front at take-off. Note the bent elbows and left knee in preparation for the pole plant and spring, as shown in Illustrations 2 and 3.

Notice especially the lead of the right leg in the swing and the gradual extension of the elbows which absorbs shock and helps maintain swing velocity. The take-off spring is very clearly shown in these illustrations. Also notice the fast rising left leg.



one hundred and twenty feet. The length of the run should be proportional to the jumper's ability to pick up speed, the jumper with the slower reaction time using the longer run.

Heavier vaulters as a rule use a longer run because, the inertia of a heavier body being greater, the acceleration is generally slower.

The necessity of having the vaulter stride evenly and powerfully cannot be over-emphasized. Even striding is basic to a consistently correct take-off position.

Mechanics of the Pole Bend

The importance of having the vaulter choose the correct pole for his individual style of vaulting cannot be over-emphasized, if the maximum of efficiency during the swing and pull-up stage of the vault is expected.

At the moment the pole is planted in the box it assumes a slightly convex position (center of pole nearest the ground), during the early stages of the swing the pole assumes a concave position in relation to the vaulter, while at the same time bending sideways to form a concave position in relation to the vaulter's body swinging past it.

Importance of the Pole Bend

If the pole did not flex slightly at the moment of impact with the box, the whole shock of the pole hitting the stop board would be transmitted directly along the pole to the hands, arms, shoulders and back muscles of the vaulter. This slight pole bend at the instant of implantation acts as a shock absorber for the vaulter's body at the moment it is being prepared for the projection onto the pole.

Implications of the Pole Bend

If, when the vaulter swings and pulls on the pole, the pole bends excessively (more than six inches out of line in any direction), instead of the vaulter's body swinging forward and upward in a smooth parabolic curve, the rise of the center of gravity is delayed until the pole reaches so near the vertical that the vaulter is not allowed sufficient time to execute the pull-up and turn effectively. A vigorous pull at this time will only bend the pole more and slow the rise of the body further, not to mention the danger of breaking the pole due to the excessive bend.

The lateral deviation of the pole during the pull-up and turn allows all of the forces acting on the vaulter to fall in alignment and thus prevents the vaulter's body from being projected to one side when the pull is made. This also prevents the vaulter's left hip and leg from striking the pole.

The pole bend of the better vaulters studied was very moderate, seldom ex-

(Continued on page 44)



COACHING SCHOOLS

Colorado Coaching School

DENVER, COLORADO

Aug. 18-23

N. C. MORRIS, *Dir.*

For list of staff see page 47

Daytona Beach Coaching School

DAYTONA BEACH, FLA.

• Aug. 18-23

G. R. TROGDON—L. L. MCLUCAS, *Dirs.*

Look for announcement in May issue

Duke University Coaching School

DURHAM, N. CAR.

July 21-26

WALLACE WADE, *Dir.*

Eastern Coaching Clinic

MANHATTAN BEACH, N. Y.

Aug. 18-23

CLAIR BEE, *Dir.*

For list of staff see page 43

Indiana Basketball Coaching School

LOGANSPORT, IND.

Aug. 18-22

CLIFFORD WELLS, *Dir.*

Look for announcement in May issue

Kansas Coaching School

TOPEKA, KANS.

Aug. 18-23

E. A. THOMAS, *Dir.*

University of Kentucky Coaching School

LEXINGTON, KY.

Aug. 11-16

M. E. POTTER, *Dir.*

North Carolina Coaching School

CHAPEL HILL, N. CAR.

Aug. 18-30

R. A. FETZER, *Dir.*

Look for announcement in May issue

Northwestern University Coaching School

EVANSTON, ILL.

Aug. 18-30

K. L. WILSON, *Dir.*

For list of staff see page 29

Pennsylvania State College Coaching School

STATE COLLEGE, PENN.

June 10-27 June 30-Aug. 8 Aug. 11-29

M. R. TRABUE, *Dir.*

Texas High School Basketball Coaches' Assn. School

DENTON, TEXAS

June 23-27

HENRY G. SHANDS, *Dir.*

Utah State Agricultural College Coaching School

LOGAN, UTAH

June 9-13

E. L. "DICK" ROMNEY, *Dir.*

For list of staff see page 46

West Virginia University Coaching School

MORGANTOWN, W. VA.

Aug. 4-9

ALDEN W. THOMPSON, *Dir.*

Look for announcement in May issue

THIRTY-SECOND DRAKE

APRIL 25 and 26

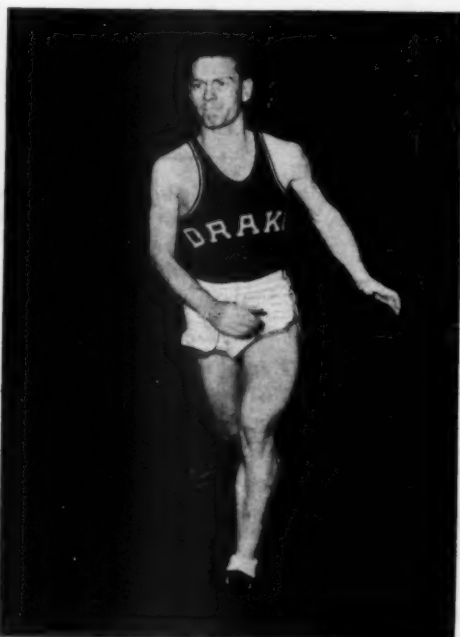
WELCOME TO DES MOINES

The Greater Des Moines Athletic Association extends a cordial invitation to athletes from colleges and high schools to attend the Thirty-second Annual Drake Relays, one of the outstanding events of the world, and to make every effort to have here a happy and pleasurable time.

Founder
John L.
Griffith

Director
M. E. (Bill)
Easton

HAROLD (Red) ALBEE



This is Harold (Red) Albee, Drake track captain. For three years Albee has been one of the Missouri Valley conference's best 440 men, winning the indoor conference title in 1939. He has been the outstanding Drake performer in the one- and two-mile relays during the indoor season this year. Albee also captained Drake to an undefeated dual season and a first place in the Iowa A.A.U. inaugural.

PROGRAM

Special Events

100-Yard Dash, 120-Yard High Hurdles, Shot Put, Javelin Throw, Broad Jump, Discus Throw, 440-Yard Hurdles, Two-Mile Run, Pole Vault and High Jump. (Open only to college and university men.)

University Section

440-Yard Relay, 880-Yard Relay, One-Mile Relay, Sprint Medley Relay, Distance Medley Relay, Two-Mile Relay, Four-Mile Relay and 480-Yard Shuttle High Hurdle Relay.

College

880-Yard Relay, Mile Relay, 480-Yard Relay.

High School

(Separate Class A and Class B high schools over 600 Class A.) 880-Yard Relay, 880-Yard Relay, One-Mile Relay, Two-Mile Relay.

SECOND ANNUAL RELAYS

**May 25 and 26
DES MOINES**

Des Moines Committee extends
to athletes of universities,
schools of America to at-
tend Annual Drake Relays.

Des Moines city are proud of the
the outstanding athletic
world, and they will
effort to have your stay
easy and pleasant one.

PROGRAM

College Section

880-Yard Relay, One-
Mile Relay, Sprint Med-
ley Relay and Two-Mile
Relay.

High School Section

(Separate Relays for
Class A and Class B Iowa
high schools; schools with
over 600 students, are in
Class A.) 440-Yard Re-
lay, 880-Yard Relay,
One-Mile Relay and
Two-Mile Relay.

We'll Help You Make Your Reservations

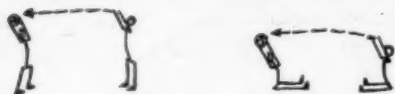
The Headquarters Chair-
man of the Drake Relays Com-
mittee will be glad to make
hotel reservations for you and
your team. For further information,
write Director M. E. (Bill) Easton,
in care of Drake University, Des
Moines, Iowa.

ED DELANEY

*This is Ed De-
laney, Notre Dame
sophomore, who ranks
among the midwest's top
shot putters in his first year
of competition. When he com-
petes at the Relays, this brawny
Irishman will carry a 51' 1½"
all-time Notre Dame record with
him.*



Football Conditioning Exercises

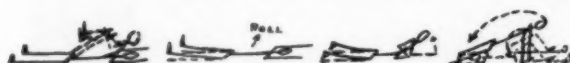


1. Medicine Ball throwing

- A. Standing 10 feet apart, ball is thrown above your head to above the other person's head;
B. Sitting—same as standing.



2. Lying on back; sitting up and touching toes



3. On back, hands above head, legs straight

- A. Bring knees to chest, grasp hard with hands;
B. Stretch legs straight, heels off floor, hands above head in line with body;
C. Roll either right or left keeping feet and hands free from floor;
D. Place hands on floor under chest;
E. Extend arms raising weight on hands and feet;
F. Sit through bending knees sharply and sliding feet forward between hands
Repeat.

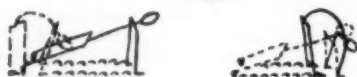


4. Standing, feet apart, arms over head

- A. Jump to squat, hands on hips;
B. Spring back to original position

5. On back, arms at side shoulder level

- A. Kick right foot to left hand and return;
B. Kick left foot to right hand and return;
C. Sit up;
D. Swing right hand to left foot;
E. Swing left hand to right foot;
F. Return to back.
Repeat.



6. Feet together and parallel, knees straight, body flexed at hips, back rounded so that hands touch floor in front of feet

- A. By a series of short steps with the hands, advance along floor, keeping the heels on floor as long as possible until body is in prone position;
B. By short steps with the feet progress toward hands. Steps should be four inches long.



7. Sitting position

- A. Draw left knee to the chest;
B. Extend left knee as right knee is drawn to chest;
C. Continue alternating knees. Keep heels off floor.



8. Rest weight on hands and upper part of feet

- A. Go forward on hands, drag legs and feet. Keep knees straight during exercise.

9. Correct standing

- A. Squat to full knee bend, hands outside of feet;
B. Extend legs to prone rest position;
C. Dip;
D. Extend arms and clap hands;
E. Jump to position "A";
F. Spring to erect position.



10. Lying on back

- A. Place hands on abdomen and raise legs six inches, throwing body in sitting position as legs are spread wide apart, heels off floor;
B. Close legs;
C. Lower trunk;
D. Lower heels;
E. Pause, relax and repeat.

By George T. Stafford

Professor of Physical Education, University of Illinois

Illustrated by William J. Goldie

University of Illinois

ROBERT ZUPPKE commented after the close of the 1940 season that although the squad included a number of big boys, they lacked alertness, skill, endurance and other necessary qualities. The author suggested that his players might profit by joining our "Keep Fit Club" in which exercises are given to overcome physical deficiencies. It was decided to try this plan out.

(Continued on page 29)



11. Hand stand. Do at least 3 dips from hand stand to head stand.

12. One-half dip position with right knee bent under chest, left leg is extended back full length; rapidly change positions of feet by jumping motions.



13. Same as Ex. 12 but extend and flex both knees by rapid jumping motions

14. Weight on right foot and right hand, body straight. Raise left leg and left hand as high as possible. Repeat 4 times, roll to left side and repeat with left leg and left arm 16 count in all.



15. High-step run in place 10 seconds

- A. Dive forward, weight on hands and let chest strike floor lightly, then abdomen, thighs and feet. Relax 5 seconds.
B. Jump to feet.
Repeat.



16. Lying on back, hands under head and elbows on floor

- A. With knees together and straight, raise legs to right angle to floor;
B. While keeping elbows on floor, press heels toward ceiling 6 inches. Note: Legs are extended upward;
C. Return heels to a position 6 inches off floor and repeat.



17. Front support, resting weight on upper part of feet

- A. Lower chest to floor;
B. Resume original position by pushing the body up. Be sure of a straight line from toe to head.



18. Squat leap

- A. From full squat position, jump high in the air spreading legs outward and upward, touching toes to hands;
B. Return to squat position and repeat 10 times in rhythm.

Coaches — Check these outstanding RAWLINGS IMPROVEMENTS Before You Order! Now Featured by your RAWLINGS DEALER

SHOULDER PADS

- Patent applied for Snubber Feature, holds the flaps squarely in position. An important Rawlings Improvement. Standard on certain numbers. Can also be applied as an extra on pads not already equipped with same.
- Caps are now lined with two layers of soft knitted cap lining.
- Fibre shoulder arches, caps, and flaps have new type corrugations and cupping arrangements that not only afford top protection but in addition are exceptionally pleasing to the eye.
- Comfortable easy fitting body straps.

HELMETS

- Molded, cupped fibre reinforced back.
- Lower section of helmet built on new three-piece design.
- Rawlings new "R" style ear. This new ear is a notable addition to the already popular "Elongated" and "Overlapping" style ears. Gives you three distinctive styles for your consideration.
- Spot padding: All vital points have rubber spot padding in addition to regular padding.

HIP PADS

- Special designed short rib and kidney fibres featuring our exclusive molded Hooked Belt Rider.
- Molded, cupped flaps and hip fibres.
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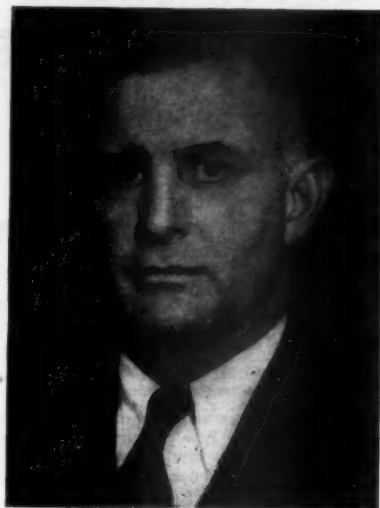
SHELLS

- New panel back pattern featuring self-material insert extending from the waist-band at back all the way through the crotch and to the top of the waist-band at front. This coupled with the finishing seam up the back of the leg results in a five panel back assuring ample room where needed. A free feeling, form-fitting pant.
- Also featured in certain shells is Rawlings special designed hanging thigh guard pocket.



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FRANK G. McCORMICK

Selling the nation on "MAKE THE MOST OF PLAYTIME!"

Last month national publicity broke on the new color sound movie, "MAKE THE MOST OF PLAYTIME!", sponsored by and distributed through The American Legion. In addition to magazine advertisements, thousands of three-color booklets are being mailed out by the Legion in answer to requests for information on the film. Stories have been released to over 600 Legion publications.

Frank G. McCormick, Director of Athletics and Physical Education at the University of Minnesota, and chairman of the Legion's national committee on physical education, health education and recreation, reports that "MAKE THE MOST OF PLAYTIME!" is arousing tremendous enthusiasm and real action in spreading the gospel of more and better athletics. It is being shown to state governors, Legion commanders, educational and recreational leaders and civic-minded groups.

This is a *national* program. Many communities are already carrying out suggestions for sports activities they saw in the movie. This means a big lift for the national defense and preparedness program, and will benefit every one connected with athletics. Are YOU pulling your share of the load? Co-operate with The American Legion. Obtain sufficient contributions from public-spirited citizens and organizations to purchase "MAKE THE MOST OF PLAYTIME!" film prints at cost — \$150.00. Present them to your Legion Commander. The Legionnaires will do the rest.

For additional information write to The American Legion, Director, National Americanism Commission, Indianapolis, Indiana or to the

McCORMICK EDUCATIONAL PROMOTIONAL BUREAU

209 SOUTH STATE STREET

ROOM 1724

CHICAGO, ILLINOIS

Football Conditioning Exercises

(Continued from page 26)

The men were called together and the situation explained without at any time resorting to euphemistic phrases. To deflate any remaining egos, the squad was put through a simple motor-ability test comprising three events: chinning, dipping and a modification of the Sargent jump. Due to the very low scores of many, the records were not made public. The squad was then introduced to a series of vigorous conditioning exercises.

The results of the first session made it clear to the participants and the few chosen spectators that many boys were sadly in need of some rigorous calisthenics to develop the muscles of the arms, backs, chests, abdomen, legs and feet. Each evening the squad was given these conditioning exercises for a period of fifteen minutes. Perspiration accompanied the clearly audible groans as the dosage of work was increased, but at the opening of spring practice two months later, the group could go through a twenty-minute routine of the exercises.

After the players began to show signs of getting into condition, Ray Eliot, assistant coach, decided that the technique of blocking also could be taught during these conditioning sessions. Accordingly, after the conditioning exercises were given, a period of twenty-five minutes was devoted to blocking. The players were equipped with soft, thick pads which covered the entire front of their bodies from chest to ankle to act as "resisting dummies."

This blocking work was done on a large gymnasium mat. The players practiced the various types of blocks which will be used in the playing season, such as body, reverse body, and head and shoulder blocks.

It is too early to evaluate the results of these exercises. Each player has been urged to take these exercises on his own time in order to keep himself in good condition. The squad will be asked to continue their daily exercise workout during the summer with the hope that their ability in September will be something more than a fine coat of tan acquired while acting as a lifeguard at some beach. It would be desirable to devote fifteen minutes to these exercises at the beginning of each practice in the fall if time permitted. This should reduce the number of injuries, to which players in poor condition are more susceptible.

The goal of this program is that every football player next fall will be "tough" and have that strength, endurance and agility which will not make that toughness an anachronism. The Germans made sport

(Continued on page 43)

STUDY UNDER MAKERS OF CHAMPIONS

NORTHWESTERN UNIVERSITY

Coaching School-by-the-Lake

EVANSTON, ILL. AUGUST 18-30

For 14 Years the Nation's Outstanding Coaching School

Football

LYNN WALDORF

Northwestern
Brilliant Exponent
of Single Wing Attack

BURT INGWERSEN

Northwestern
Noted Line Coach

WES FRY

Northwestern
Outstanding
Backfield Coach

ALL-STAR COACHING STAFF

Lectures will be given during the entire two weeks of the school by members of the College All-Star Coaching Staff.



LYNN WALDORF
Northwestern—Football



DUTCH LONBORG
Northwestern—Basketball



BUD FOSTER
Wisconsin—Basketball

Basketball

DUTCH LONBORG

Northwestern
For 14 Years a
Leading Big Ten Coach

BUD FOSTER

Wisconsin
1940 Big Ten
Champions

Courses in swimming, track, athletic administration, training and intramurals will be given by members of Northwestern University's Coaching Staff.

TWO BIG WEEKS

Northwestern offers you an opportunity to spend two full weeks with a staff of the outstanding coaches in the country. The records of Waldorf, Lonborg and Foster stamp them among the most successful coaches in their respective sports.

WATCH COLLEGE ALL-STARS

During the two weeks of the school the College All-Star football team which will play the Chicago Bears at Soldier Field will train at Dyche stadium. Here is an unequalled opportunity to watch a staff of the nation's greatest coaches prepare a team for a game.

ENJOY A GRAND VACATION

You combine study with pleasure at Northwestern. Located on the shores of Lake Michigan, Evanston is an ideal summer resort . . . excellent bathing beaches . . . Big League baseball . . . numerous golf courses . . . living quarters on the lake front . . . special accommodations for coaches with families . . . A vacation you will never forget.

K. L. WILSON, Athletic Director
Northwestern University, Evanston, Ill.

Please send me additional information on the Northwestern University Coaching School.

Name

Address

City State

Building Interest in Track in Small High Schools

(Continued from page 13)

add to the fun of track and help us secure freshman boys and boys who have not developed special ability to take part in track.

In arranging the schedule I try to have one track meet a week. These include dual meets, the county, district and state meets. On trips the full squad is always taken, regardless of the fact that some of the boys may have limited ability.

In addition to awarding the boys letters, I show my appreciation for their efforts by taking them to big track meets whenever the opportunity presents itself. We have found that the boys get a big thrill out of these meets and that they prove a big incentive in making them work harder.

Lloyd Skor

High School, Plentywood, Montana

TRACK lacking natural appeal for the average high school youth, depends for its success upon the coach's ability to provide stimuli sufficiently strong to interest boys. Generally absent is the fun in practice that is so characteristic of basketball and football. As a result the director must be both coach and press agent, with an eye to future years.

In 1933 track interest was at a low ebb in our school with no interscholastic participation in the sport. Since then we have built the activity into one of our major sports attractions. Enthusiasm did not overflow the first season, but we decided to build slowly and soundly and planned our program in such a manner so as to present additional incentive each succeeding year.

Our present high school enrollment is 176 of which 91 are boys. Figures from our files of the past five years reveal that we have had an average of 31 boys reporting for track each season. Of these an average of 14 per season have been point winners in regularly scheduled track meets. We operate under severe climatic conditions. Our early training must be held indoors. Outdoor work is handicapped by cold April winds. The season of competition is short. In the early years of our program we frequently competed in heavy dust storms. We have had but one home meet in the eight years I have been coaching in this school. Until last season we had no definite athletic field upon which to work. In spite of these handicaps track is firmly established in our school and students eagerly await the first call for practice.

We feel that there is no single factor which is responsible for the interest we have developed in track. Rather we are convinced that a definite program of participation and publicity wide enough in

scope to appeal to almost every prospective athlete, brings the results. We spend much time and effort in selling the sport to our boys. Neither interest nor activity is permitted to lag. We hold to our program rigidly and are careful not to disappoint either the individual or the team in the matter of administration or policy. We work both on the individual's desire for achievement and the school's pride in a winner. Team results are stressed, yet the individual winner is lauded in keeping with sound education policy.

In building this track participation we have worked in three directions.

Continuous Participation Throughout the Season for Every Member of the Squad

In striving for continuous participation we schedule a meet every week. These meets consist of one or two duals, the district, regional and state meets. We also include one invitational or relay meet in our schedule. In the dual meets all candidates participate. Later meets are limited only by meet regulations as to the number participating. At least ten men take part in all meets except the state.

So that all will have a chance to participate, an intramural meet is held in which the point winners in the interscholastic meets are kept out. We also stress relay events a great deal due to the competitive angle.

We give National Amateur Athletic Union tests each year to anyone desiring to take them. This, we found helps hold the interest of the boys out for track. Finally the junior high school has a definite track program and the interest built there carries into the senior high school.

Placing Track on an Equal Basis with Basketball and Football

In making track the equal of other sports, we have a budget and funds are available for an extensive program every year. Furthermore we make a proportionate outlay for equipment as in the other sports. Warm up suits, uniforms and necessary tools are purchased.

As in the other sports attractive trips are arranged, and meets are held at night in order to increase the attendance.

Within the school itself, this idea of equality is carried out by displays in the school corridors. These displays consist of pictures of teams, records and action photographs of local athletes placing in big meets.

To make this equality of sports complete, track must receive the same newspaper publicity as the other sports. We

have succeeded in winning over the local newspapers with the result that lead stories are carried each week as well as accounts of results. Individual and team achievements are played up with names being used very extensively. Furthermore we keep a check on our graduates and their performances are reported.

Establishment of Progressive System of Awards

We award standard school athletic letters on the basis of achievement only. Also, special trophies are awarded for season high point man and to those breaking existing school records.

In our school we award three sport medals to athletes who won letters in football, basketball and track. If won a second or third year, higher awards are made. We have found this is a powerful factor in getting certain boys to participate. Through this means we have uncovered surprising track talent where otherwise the athlete would have felt satisfied with accomplishment in other major sports.

Winners of relays have their names added to the traditional school baton which has now been in use for eight years. Further, holders of school, district, regional and state records have their names added to a large record board displayed in the central corridor. Records are also kept of each individual's performance. Their best mark last year is posted at the beginning of each season. Finally, winners in intramural meets receive ribbon awards. Every participant receives credit towards a school intramural letter.

These factors serve chiefly to get the boy on the practice field. Much could be said of making practice sessions interesting, of having definite aims and objectives each week, of having a schedule of workouts for every individual each practice period. We endeavor to make each individual feel his place in the program. Some time during the week even the most hopeless scrub gets personal attention. Very few boys drop the sport entirely.

This is not the place to state the reasons why we feel that track deserves a major place in our athletic program. We believe track is educationally sound, and we have pledged ourselves to work both for its continued growth and to pay the bill necessary to maintain it.

Our track and field program has now been sold to the community as well as to our student body. As a result an athletic field has been purchased and a project planned to improve it so as to make it a credit to a modern athletic plant. Our patrons now want a traditionally big meet established, and they are willing to back it.

Charlie H. Foster
High School, Ansley, Nebraska

In order to build interest in track the first requisite is good equipment. A good dirt track is essential. Vaulting and jumping pits, regulation size and filled with sand or sawdust, proper shot and discus rings, a javelin board, and a sufficient number of good hurdles and starting blocks are all necessary. These are within the financial reach of small schools if foresight is used and the track and equipment are built up from year to year.

As soon as the basketball season closes, the coach should begin talking track. A school will never be renowned for its track teams unless the coach himself is interested in this sport. He should encourage every boy in school to participate in track. Then in order to get the boy in the best physical condition and have him learn the most possible in the shortest time, the coach should put him on a definite schedule about two weeks after track practice begins. If possible do not let the boy miss a day. Bad weather handicaps track practice in this state but some work can be done in the gymnasium on bad days.

All this training points toward competition. Although an inter-class meet is a good beginning nothing stimulates interest any better than dual meets. In these meets, the events are not limited to three men but as many as wish to may compete. Even though a boy is not very good in an event, he may be better than a boy from a neighboring school. At least three dual meets a season should be scheduled.

Pictures and clippings concerning track, as well as school records, should be posted on the bulletin board in the locker room. In this school, if a boy's mark properly timed and measured is the best ever made here, it becomes a school record, even though it was made in practice, or ranked first, second or third place in a meet.

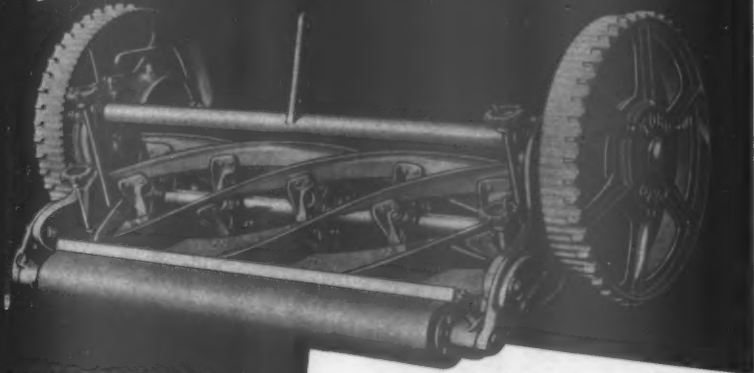
Many schools have too high a requirement for earning a letter. Lower the standards sufficiently so that the majority of boys can earn one and see how interest increases. Qualifications in this school are as follows: Five points earned in a dual meet. Twelve points for the season, in all meets. Place in county conference, state or invitation meet which includes more than five schools. Run in a relay team which wins dual meet, or places in large meet.

Track interest in Nebraska has been encouraged by Mr. Henry Shulte, and Mr. Edward Weir, former and present track coaches of the state university. They offer one-half and full, blue numeral awards on a point system for certain times and distances in field and track events throughout the season. Shulte's pentathlon, patterned after the decathlon, gives a boy an opportunity to earn a medal if he gets a sufficient number of points in two weeks.

(Continued on page 34)

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Fielding Technique Illustrated

Waner Fielding a Fly Ball

The proper method of fielding a ball hit over-head is shown in Illustrations 1 to 12.

Illustration 1—Waner is set as the ball is hit, with his hands on his knees and on his toes, the conventional position for a quick start. He has already started to dig his right foot in for the turn. From this position a player should gauge the approximate spot to which the ball is hit.

Illustration 2—He turns immediately and starts for that spot. It is not necessary or even desirable for his eyes to be fixed on the ball while "going away."

Illustration 3—Waner nears the spot where the ball will land. He turns again to locate the exact spot where the ball will be caught.

Illustration 4—He has over-run it about a step. Some players do this deliberately to gain momentum for a quick and powerful throw.

Illustration 5—Waner is coming directly under the ball.

Illustration 6—He is bringing his hands up to catch the ball.

Illustration 7—Note how he catches the ball. His hands are chest high, out from his body and the palms are up. Too many young players catch fly balls above their heads, momentarily blocking their vision. Catching a ball high also permits recovery if juggled or fumbled momentarily. There are a few "trick" catches such as Eddie Miller's, but the majority of major league players use this method.

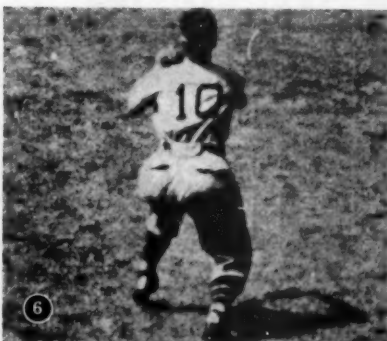
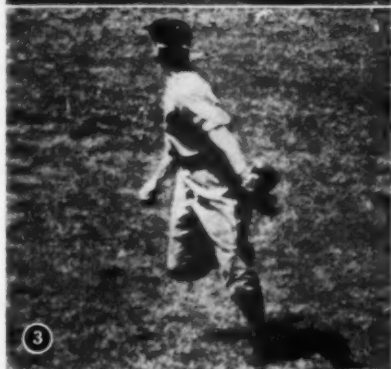




Illustration 8—Waner has started to draw his arm back. His weight is on the wrong foot.

Illustration 9—His weight is now transferred to the left or the correct foot from which to throw for a right-handed thrower.

Illustration 10—The beginning of the forward motion of the arm. Notice Waner uses the over-hand throw.

Illustrations 11 and 12—Getting the ball away. Throw the ball on the line, or a low fly, directly to the relay man on a relay where he comes into the outfield. Where a throw is made direct to a base, try to throw the ball on a line fly (never over eight to ten feet in the air) so that the receiver takes it on the first hop. This is not primarily to speed the throw, but so the receiver can look down at the approaching ball and approaching baserunner at the same time. He should not be compelled to look up for the ball and down for the baserunner.

Jurges Fielding a Grounder

Illustration 13—Jurges has already broken for the ball. He is lining his body up with the ball so that if it takes a bad hop he can block it.

Illustrations 14 and 15—He has not taken his eye off the ball. Notice his body is in balance throughout.

Illustration 16—The ball which was about a foot in front of his glove in Illustration 15 is now entering his glove and as he receives it he draws his arms back toward his body to start the throw.

Illustration 17—Jurges has transferred his weight to the back or right foot while drawing his arm back. This saves time.

Illustration 18—He is using an over-hand throw. Unless the player has an exceptionally strong arm there is great danger of permanent injury to his throwing arm by using an under-hand throw for distances much over ninety feet.

Illustrations 19 and 20—Notice Jurges keeps his eye on the target as he throws. This reduces wild throws. Too many young players take their eyes off the target before the ball leaves their hand.

Illustration 21—Notice the follow-through of arm and body.

Illustration 22—Jurges comes to a fully balanced position ready to get into the next play. Note similarity of this position to pitching follow-through.



The Athletic Journal is indebted to Mr. Ethan Allen, National League Film Bureau, 30 Rockefeller Plaza, New York, for this excellent series of pictures on Play at the Bases. The pictures are taken from the new National League film, available on 16 mm. and 35 mm. to schools, churches and organizations which have sound projectors. The only obligation is express charges both ways. Inquiries should be addressed to Mr. Ethan Allen or to your local National League club office, if you live in or near a National League city.

Building Interest in Track in Small High Schools

(Continued from page 31)

Finally, in order to build interest in track the coach must be so enthused about it he will encourage every boy to try out. He will put each boy on a definite schedule. He will give every boy an opportunity to earn a letter by not having too high standards and by providing plenty of competition through dual invitation and conference meets.

James G. Growney

**Memorial High School, West New York,
New Jersey**

The success of any competitive sport depends in a large measure upon the interest it arouses from both the participants and spectators. This interest, it would seem, depends to a large extent upon the color and pageantry which can be given or injected into the sport, and seems to stimulate participants and encourage larger gates. Promoters of professional sports have long since recognized this.

Prior to 1936, track and field athletics had been abandoned at Memorial High School due to lack of student interest and financial aid. In the spring of that year various ideas for reviving interest in track and field were considered and the following were adopted.

The department of health education formulated plans for a big field day in which every school in the county would be invited to participate. In order to secure the necessary funds to purchase prizes for the winners of the various events, a series of talks was given before numerous civic groups, namely, the Teachers' Association, American Legion, Veterans of Foreign Wars, Board of Trade, Exchange Clubs and Lions Club. In these talks we outlined our plans and explained the necessity of financial aid. The response was gratifying and whole-hearted. With financial assistance assured we turned our attention to publicizing the event.

The first step was to secure advance publicity. After we had acquainted the newspapers with our aims they cooperated to the fullest extent. They too were anxious to revive interest in this activity. Weeks before the event took place papers carried columns on the progress reported. Handbills, colorfully decorated store fronts, placards and window displays of the handsome trophies and prizes to be awarded added greatly to the enthusiasm of the community.

On the eve of the meet the committee arranged a parade which included several drum and bugle corps, the high school band and practically the entire student body.

The day dawned bright and cloudless. Long before the colors were raised over our stadium every one of the 5,000 seats

were occupied. Promptly at 10:30 A. M. the colors were massed and the participants, led by the high school band, marched into the stadium, passed the grandstand and proceeded out to center field. As the band played the national anthem the flag was unfurled and, simultaneously, 250 homing pigeons were released.

The morning was devoted to competition between public and parochial elementary schools. At 2:00 o'clock the interscholastic meet started. Our entry list included every high school in the county and more than 450 athletes competed. Although we supplied each person with a program of the day's events, we felt it expedient to further sustain their interest, and to this end we wired the stadium for sound and secured the services of a well-known announcer. We set up a time-table and order of events and made certain that the events took place at the scheduled time.

A flag-bedecked platform was erected in front of the grandstand on which was seated the announcer, the custodian of prizes and the official score-keeper. Immediately following each event the winners were escorted to this platform where they were presented to the spectators and awarded their prizes.

The day was such a marked success in every respect that the mayor and the members of the board of education felt it to be a truly community activity. Because of their desire to enrich and enhance community life, the following year they made provisions for the town to subsidize this program and have since set aside Memorial Day as the day on which our meet is held.

All this color and pageantry have returned track and field to its rightful place in the health education program of our town.

D. C. Miranda

High School, Springer, New Mexico

Interest in track in New Mexico has fallen to the lowest mark in recent years, due to the failure of some of the administrators to create sufficient interest in the sport among the schools of the state. At a recent meeting of school administrators, certain gestures were made which if not checked will result in the ultimate elimination of track on the interscholastic program. I believe this is due to the fact that these administrators look upon track as an anti-climax to the athletic year and are willing to close their books after the district and state basketball tournaments.

We realized that such a situation was arising in our school and set forth to prevent the ultimate dropping of track. We

have succeeded in giving the sport a rebirth.

At Springer High School we have deemed it advisable to have a full all year-round athletic program. This, of course, necessitates economy on our football and basketball expenses. This is contrary to the belief held by some of the schools in New Mexico.

As a means of reviving track as a sport we rented several movie reels illustrating essential fundamentals of the various events. All the boys in school were requested to see the films at least once. In the spring of 1940, following the showing of these movies, we organized our first track team. The team was very successful, winning the first invitational meet and placing second in our state, district No. 1 meet. This very good start was the incentive we needed to further arouse interest.

We received very favorable publicity in the various state papers thereby creating interest among the boys as well as in the community. Track became a subject of conversation among the students and patrons.

We have also found that the boys like to compare their ability with those holding records in the different events. At regular intervals Amateur Athletic Union, college and scholastic track records are posted in the dressing room.

Interest in athletics as a whole has risen in our school and community so that this year we are completing a building program including a \$25,000 gymnasium and a \$25,000 stadium. The stadium will include a sodded football field and an excellent cinder track. It is our theory that interest in any sport among boys depends largely on the facilities provided for the sport.

We feel that our well-rounded program, in which no sport is given preference over another, has proven very successful. We have found that the foundation for football and basketball teams is built on the cinder track in the spring.

As a summary may I add that we have created a fair amount of interest in track by: 1. Using films. 2. Providing adequate facilities. 3. Arousing the interest of the patrons. 4. Giving track the same place in our program as other activities. 5. Emphasizing the value of track. 6. Providing competition for participants.

E. H. Kotchian

**Central High School, Devils Lake, North
Dakota**

Track, which very often is referred to as a dull sport, is not always dull if team spirit and team competition are built up as in other sports.

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terest in track is to build it up as one of the major sports in the school. Do not try to have a track team made up of one pole vaulter or one broad jumper or one sprinter. We realize that a small school has a shortage of good men to pick from in order to make up a team. In schools where this trouble is encountered it may be necessary to go along carrying a team that does not win many points. One thing a small school must do if track interest is to be kept up is give the boys meets to compete in and arrange at least one overnight trip. This will give the boys something to look forward to.

Many boys that have never taken part in track think they do not have the opportunity to have as much fun on a track team as they do on a football or basketball team. This idea is soon changed.

Here in North Dakota we use a system where any boy may qualify for the state meet by meeting certain marks set up as a standard by the high school league. We also hold district meets where any boy winning a first or second place in any event is qualified in that event at the state meet. If the boys in any school are made familiar with these heights, distances and times, and actually strive to better these marks, interest has already been built up.

A number of coaches have found that a school which has a good track team and enthusiasm for track, usually has good football and basketball teams. This can be explained to the boy by stressing the fact that before he can play any game he must be able to run well.

A problem the small average school here in North Dakota is faced with is that many of the boys are from the farm and are not able to stay for regular track practice after school. This can be solved by giving the farm boys an outline plan of practice and letting them work out during the noon hour before they eat their lunch.

Junior and senior high school class meets very often bring out some material that would not be discovered in any other manner.

In most of the counties in our state a regular play day is arranged for. On this day, children as young as six years of age compete against children of the same age from different schools. This seems to create interest in track at an early age.

The system of awarding track letters can be arranged so as to emphasize second and third place winners. This plan tends to encourage underclassmen who ordinarily would not earn a first place in regular competition.

We have found that keeping a weekly progress chart for each boy, after the first two weeks of training, has created interest in track in our school. A chart of this kind shows each boy what progress he is making and gives him a desire to excel in his particular meet.

(Continued on page 40)



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Spalding J5-V withstands 5 times inflation pressure of ordinary ball. High-speed photo freezes action of kick-off by Sid Luckman of the Chicago Bears. Copyright, A. G. Spalding & Bros.

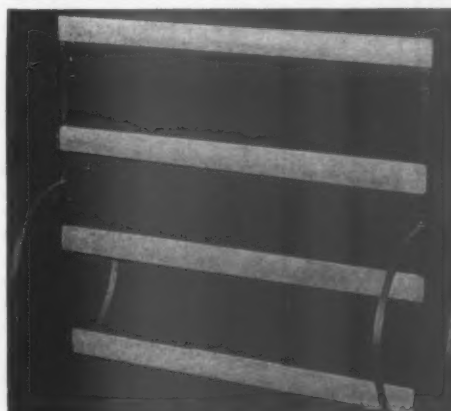
● A punt that travelled 92 yards against the wind, that's the incredible boot that a S.M.U. player got off in the final minutes of play last season in the game against Pitt! And the ball was, of course, the famous Spalding J5-V.

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Cleats No. 5 (14) M	\$2.25	Repair Kit	\$10.00
Cleats No. 5 (14) F	\$2.20		
Laces, gross	\$ 4.50		
Fixtures Complete	\$.05		
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Cleat Wrench	\$ 1.50		
Cork Soles (pr.)	\$.09		
Sole Plates (pr.)	\$.24		

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Basketball Shoe Accessories

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Outsoles (pr.)	\$.90	Cork Insoles (pr.)	\$.11
Resoling (pr.)	\$1.75		

TRACK SHOES

Style S	\$6.75	Style J	\$7.50
Style N	\$5.50	Style K	\$5.50
Style NX	\$4.50	Style KX	\$5.50
Style T	\$3.90	Spikes	\$.05

Track Shoe Accessories

Wrenches	\$.35		
Laces, gross	\$1.50		
Fixture Complete	\$.07		

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Style 8B	\$8.50	Style KB	\$4.50
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The Way to Learn to Hit

(Continued from page 9)

If you interfere with him, you will be called out.

Laying Down a Bunt

There are two ways of bunting: 1. When you bunt to advance a baserunner. 2. When you bunt to get on base.

Every player should know the first way, called the sacrifice bunt. The second type is useful for the fast, skilled player and is a special skill developed through much practice.

The sacrifice bunt is the one you must learn. The first thing to do in the sacrifice bunt is to meet the ball with the bat. Then, after the bunt has been made, try to reach first base. The important thing to do is to lay down the bunt, and you must realize this and concentrate on it. Only after the bunt has been made, should you think of reaching first. If you do not do it in this way, the desire to get a fast start will be likely to cause you to bunt in a slipshod manner. Remember that your job is to advance the runner, and a poor bunt will fail to do this and may cause him or even both of you to be put out.

There are two ways of holding the bat for a bunt: 1. By sliding the top hand up the bat as far as the trademark with the fingers behind the bat, keeping the other hand in position on the handle. 2. By sliding both hands up the bat as far as the trademark and holding it at this point, with the hands about two or three inches apart, and the fingers around the bat.

Try both ways; choose the one that suits you the better. The first way is better on squeeze plays because it is easier to reach a wide pitch with it.

Stand forward in the box opposite the front of the plate. Get into bunting stance as the pitcher starts his wind-up. Do this by first stepping back with the front foot and then moving the rear foot forward until the toe of the rear foot is about even with the heel of the front foot. Be sure that your first step is backward with the front foot. If you step forward with the rear foot without first moving the front one, you may step out of the box. If you bunt the ball with your foot outside the box, you will be called out.

Slide your hand or hands into position at the same time you are moving your feet, and as you are doing so, lower your body by slightly bending at your knees and hips and extend the bat well forward. This shifting of the hands and feet, lowering the body, and extending the bat are all done at once and should be practiced until they can be done smoothly and easily.

This shift should bring you into position with the toe of the rear foot on line with

the heel of the front one, your body facing a point between first and the pitcher's box, with knees bent and body inclined forward at the hips. Your bat is held well out in front toward the pitcher, with only a slight bend at the elbows. Be sure that it is level, held squarely across the path of the ball, well out in front of the body. It should be held high; that is, at a point between the letters and the shoulders. Grasp it loosely, with enough firmness to control it. A tightly held bat will not give and will cause the rebound to be too hard.

With the bat well out in front, held in a loose grasp, and the body crouched, you can sight the ball just over the extended bat. To get the bat in front of the ball, raise or lower the body along with the bat. Keep the bat slightly above the ball to avoid bunting into the air. Move it into line with the ball; do not push at it. Do not attempt to pull the bat as it meets the ball, but rather, catch the ball with the loosely held bat.

In the ordinary sacrifice bunt you are to choose a good pitch and lay it down. Such a pitch is one that comes in between the letters on your shirt and your knees. Do not go after one that is higher than the letters. If the pitch comes in anywhere but over the plate and between your wrist and knees, pull the bat back to your shoulder. Do not leave the bat out in front or a strike may be called on you.

If you are bunting for a squeeze play, you must strive to get the bat in front of the ball regardless of its position. This is the only time that you should bunt a ball that is coming up anywhere but over the plate and between the letters and your knees.

After the ball has rebounded from your bat, take your first step toward first with your back foot. If you are a right-handed batter, this will be your right foot. As the foot is advanced, drop the bat with the left hand to that side. Do not toss the bat. As your left hand moves back with your first stride, let it fall to the ground.

Helpful Suggestions: 1. Keep in mind that the important thing to do is to "lay down" the bunt. 2. Stand opposite the front edge of the plate. 3. Get into position as the pitcher starts his wind-up. 4. Slide one or both hands up to the trademark. 5. Shift the feet by moving the front foot first. 6. Lower the body by bending knees and hips, and extend the bat well forward as the feet are being shifted. 7. Keep the bat extended, with the elbows slightly bent. 8. Be sure the bat is held level with the ground and straight across the path of the ball. 9. Hold the bat just below shoulder level. 10. Grasp it loosely. 11. Move the bat up

or down to get it in line with the ball by raising or lowering the body, not the arms alone. 12. Pull the bat back to your shoulder whenever you let a pitch go by. 13. A low ball is the best one to bunt. 14. Try to "top" the ball to avoid bunting into the air. 15. Catch the ball with the loosely held bat. Avoid pushing or pulling the bat. 16. Do not start for first until the bunt has been made. 17. Take the first step with the right foot (right-handed batter) and drop the bat from the left hand. 18. Dig hard for first base.

The Way to Practice

The first and most important thing to learn about batting practice is that constant practice is necessary to become a good hitter. There is never enough time for it during team drill, and you must do much practicing at odd moments. Individual practice is divided into two parts: 1. Practicing your swing. 2. Hitting.

Practicing your swing: To develop a good swing, you must practice it over and over until you can do it without thinking about it. Be sure you are holding the bat correctly, with arms well out from the body. 1. Swing your bat through, hitting at an imaginary ball about two feet out in front of your body. 2. To get the follow-through, try to drive your bat right through this imaginary ball. 3. Vary the height of the spot at which you are swinging to get the idea of "leveling-off" on pitches of different heights. 4. Keep your eye on the spot as though you were watching the ball meet the bat. 5. Time your step with the swing so that your weight comes onto your foot just as the bat meets the imaginary ball.

Practice this swing at least fifty times each day, but do not take more than ten or fifteen swings at one time. Keep a bat around the house and practice at odd moments. When you are on the field, pick up a bat and practice your swing when you are not otherwise occupied.

Hitting: Get someone to throw the ball easily, standing about fifteen or twenty feet away. Meet the ball out in front and try to place it by returning it to the thrower. If you can get two or three fielders into this "pepper" game, it is much better. After several rounds of tapping the ball the short distance, have the fielders move well back and try to place your hits to them. This sort of "pepper" game gives you practice in hitting the ball out in front.

Then have your pitcher stand the regulation distance and pitch to you. If you have a catcher or backstop, let about ten pitches go by while you practice following the flight of the ball with your eyes before attempting to swing at the ball.

Try to meet the ball squarely, with a good firm stroke. Do not try to "knock the cover off of it." Hit until you begin to feel tired. Have the pitcher try to

throw strikes. You do not want curves or "freak" deliveries, but have the ball come up with a fair amount of speed in order to get the most out of this practice. The more of this kind of practice you can get outside of regular team practice, the better off you will be.

Team Practice

Indoor Practice: In early season while the pitchers and catchers are working out indoors, you must practice *watching the ball* by standing at the plate. With your bat on your shoulder, take your position at the plate. Watch each pitch all the way up to the plate by following its flight with your eyes. Do not move your head. It is important not to lose sight of the ball some feet out in front of the plate. This is a common fault of batters, and much practice is needed in watching the ball until you can follow its flight all the way up to the plate. If you find that you tend to pull away from the ball, face the pitcher squarely. As you gain confidence, you can gradually turn back to your normal position. Call the balls and strikes.

For practice in *bunting* take your position at the plate and then, as the pitcher starts his wind-up, move into your position to bunt. Watch the ball all the way up, pulling your bat back to your shoulder as the ball approaches. It is desirable to learn this action before attempting to bunt because that is what you must do in a game on every ball that you let go by. Let at least five pitches go by, then pick out a good low ball and lay it down. Practice dropping the bat and starting toward first after the bunt is made.

Out-door practice: Your daily batting practice routine is this: 1. When the squad reaches the field, join a "pepper" squad of three or four players and take your turn at bat. Each player is to hit for five minutes. Make the returns short at first; later, have the fielders move back and try to place short hits to them. 2. Take your turn in the batting cage for five or more hits. Before you start hitting, lay down three bunts. 3. Take your turn at the plate with pitcher and catcher in their positions and have someone call the balls and strikes. Lay down two bunts, running out each one.

Then take five turns at bat and run out each hit. A strike-out counts one turn; if you get a walk, you will be given an extra turn. If there is another pitcher warming up while you are awaiting your turn at bat, stand at the plate and practice watching the ball. Call the balls and strikes.

This practice routine should help your hitting. The "pepper" game makes you hit the ball out in front. Batting in the cage gives you a chance to hit out in front and follow-through. Hitting at the plate gives you a chance to hit under game conditions and to practice your run to first.

What to Think About

1. **Know what to do.** When you step into the batter's box you must know exactly what you intend to do. This may be any one of the following: 1. To hit any good ball. 2. To bunt any good ball. 3. To hit or bunt a certain pitch. 4. To take one strike and then hit or bunt. 5. To let a runner steal and then hit or bunt.

You must have a clear idea of which of these you expect to do. If conditions change after you take your position at the plate, you must immediately step out of the box and get the signal for the new play. Never enter the box without a definite idea of what you are to do; never remain in it when you become uncertain.

Knowing exactly what to do will clear your mind of confused thoughts and allow you to focus your attention upon the ball as it comes from the pitcher.

2. **Watch for the ball in your groove.** The next thing to do is to imagine the spot where the ball would be if you placed it where you like best to hit it. This space out in front of the plate is your groove. This is the place where you can hit the ball most easily. In all of your practice and in all of your games expect every pitch to come up in this groove.

Be prepared to meet the ball at this spot out in front of your body. If you expect every pitch to be good, you will be set to swing whenever the ball comes up in your groove. If it comes up anywhere outside this space, you are to let it go by.

There is one exception to this. When you have two strikes on you, go after any ball that comes within the strike area even though it is outside your groove.

The easiest way to develop your hitting is by constant practice on hitting balls in your groove. As you improve and become more confident, you can extend the range.

3. **Hit the ball out in front.** Not only must you see your groove, you must also concentrate on meeting the ball if it comes up there. Meet the ball about two feet out from your body. Watch the ball as it meets the bat. To do this, you must follow the flight of the ball from the moment it leaves the pitcher's hand. Raise or lower your body slightly to keep your bat in line with the ball, as you do in bunting. Get your bat around in time to meet the ball out in front.

Helpful suggestions: 1. Know exactly what you intend to do when you take your place at the plate. 2. If conditions change suddenly, step out of the box and get the new signal. 3. Locate the space out in front which is your groove. 4. Expect each pitch to come up in this groove, and be set for it. 5. If the ball comes up outside your groove (except on a third strike), let it go. 6. Concentrate on meeting the ball out in front. 7. Force all thoughts from your mind except the one of watching for the ball in your groove and meeting it out in front.



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Hurdling as Done by Dugger of Tufts College

(Continued from page 6)

in front of the hurdle and he lands about 4 feet 6 inches beyond it. As the hurdles are ten yards apart, and three strides must be taken between them, all strides beyond the second hurdle must be almost constant.

One day in running a flight of four hurdles, his right toe hit each hurdle. We found that his take-off for the first hurdle was 7 feet 2 inches away. Upon moving his take-off four inches closer he cleared each hurdle, in order, by a margin too close to measure.

Every coach soon realizes that no definite formula of training can be applied to all athletes. Only general principles can be followed. Each individual must be handled differently.

In general, then, the would-be hurdler should practice starting, then running short distances for speed and longer distances up to 440 yards for endurance. He should practice flights of three or four hurdles to perfect his form. He should use chest weights and shoulder and arm exercises to develop the upper body. Naturally he should work on his weak points and exercise his strong points enough to hold them. For instance, if his form is perfect, he might do very little actual hurdling and devote most of his time to developing speed and endurance. I am, however, a strong believer in actually hurdling to keep in condition, as it is easily proved that conditioning for one sport or type of exercise does not condition for another, although it may be of some assistance.

Dugger keeps in condition throughout the year. In the fall he practices some on the cross-country course until about the middle of November, then begins training for the 440 yards which he runs on the mile-relay team. He also practices the 50-yard dash and the 45-yard high hurdles. After a number of starts he may run through from one to six flights with his team-mate, Walter Hall, who looks almost as good in practice as Ed. Ed practices daily except the day before a meet. About twice a week he works for a while on the high jump.

His spring training is almost the same except on alternate days he may go through a full flight of high or low hurdles. Practically all of his training is done on the high hurdles, as it is very easy for any one to change from the high to the low but not so easy for one to change from the low to the high. He also runs the 100-yard dash or 220 yards in most of our dual meets. This takes care of his speed work.

We have never considered Dugger an exceptionally fast man. His records are as follows: 100 yards . . . 10 seconds; 220

yards . . . 21.5 seconds; 440 yards . . . 50.6 seconds. His form is good enough to run the: 45-yard hurdles in 5.7 seconds; 60-yard hurdles in 7.2 seconds; 120-yard hurdles in 13.9 seconds; 220 yard low hurdles in 23.2 seconds.

He wins his races more from smoothness of form and endurance than from speed between the hurdles. He has never lost a college high hurdle race.

Training Schedule

My assistant, Clarence Dussault, one of the finest young track coaches in the East, has had almost exclusive charge of Dugger's hurdling from the beginning.

He feels that once a hurdler has developed technique in form, he should hurdle no more than two days a week and should spend the other days training for speed and endurance.

He gives the following as a typical week's work after a period of three weeks' conditioning. However, no set formula can be followed, as it must be constantly revised to suit each individual hurdler.

Monday: Warm up by jogging a half mile. Calisthenics—largely leg stretching and body bending. The best exercises are taken with one ankle on top of a hurdle. Three starts—20 yards each. Swing a 220-yard at three-fourths speed. Jog 440 yards.

Tuesday: Warm up and use calisthenic exercises. A few starts—20 yards. Two 50-yard dashes. Five minutes warming up over hurdles for accuracy of step and form. Three full flights of high hurdles at top speed with three minutes rest between them. Swing a one-minute 440-yard.

Wednesday: About the same as on Tuesday except add a 75-yard dash and finish with a fast 220-yard dash instead of the 440-yard run.

Thursday and Friday: For the first two weeks of the season medium 440's help leg conditioning. After that usually no work is given.

A hurdler should always have a two days' rest from hurdling previous to a meet, when he is in condition. Dugger worked only one day last June, the week that he won the intercollegiate 120-yard race in the record time of 13.9 seconds.

Advice to Young Hurdlers

Practice on form and speed. Use any device which your coach may suggest in order to correct your faults.

Practice starting and do short distance running.

Run over the distance once or twice a

week.

Avoid the error of sailing over a hurdle.

Make your jump as much of a step as you can and get onto the ground in running position as soon as possible after the hurdle has been cleared. Snap the foot into place.

Keep your shoulders forward during the jump and immediately following it.

Clear the hurdle by the narrowest possible margin.

Be sure that you are in perfect balance when you strike the ground after your jump.

Throw your body forward during the jump so that your head remains the same height that it was while you were running.

Observe the usually accepted training rules.

Practice daily unless excused by your coach.

Advice to Coaches

Continue to spend your time working with the average material that needs developing, but always be looking for a natural who needs only special training. Top-flight hurdlers are developed only from men who have natural spring, speed, power and the competitive spirit. On account of the time element, it is almost necessary for the college coach to depend upon the high school coach to find likely hurdling candidates and to begin their training.

Hurdling, like other forms of track work, cannot be learned in less than two or three years, and we hardly expect a man to be at his best before his fifth or sixth year of competition or until he has arrived at the age of twenty-four or twenty-five years. Considering the fact that Ed Dugger is just twenty years old and has had only three years of competitive hurdling, I believe that he has the possibilities of the world's greatest all-around hurdler. Even now, I would place him second to none with the possible exception of Frank Wolcott, who is the fastest, smoothest runner between hurdles that I have ever seen.

The Athletic Journal is interested in giving its readers subjects that are timely and of interest.

In the past we have sent out questionnaires requesting information on what type of articles you would like to see and what authors you would like to have write for us. We will continue to send out questionnaires on these matters. If, however, you have a particular subject you would like discussed, we will appreciate hearing from you.

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Carnege B. Butts
Cleveland High School, Madison, South Carolina

The lack of interest in track in the small high school is a recognized problem of considerable proportions. This lack of interest has several causes, no single one of which can be singled out and dealt with separately.

In the first place, it is the same pupils who carry on most of the activities of a small high school. In the large high schools there are several activities going on at the same time with many different groups functioning. This is not so in the small high school. During the softball season, it takes most of the pupils to carry on practice so that the school may put out a team. The same is true during the football season if the school has a football team. Then comes the basketball season, which is becoming the most popular season of the year in small high schools. During this season, there is no time for anything else, and practically all the pupils are engaged in practice until tournament time in March. During all this period little time is found for track. All interests and efforts have been concentrated on other sports in their respective seasons.

After basketball, come the literary and mental contests. The same pupils who have played softball, baseball, football and basketball are now participants in these contests also. Training for track is postponed until late in the spring, not by choice as much as by necessity. By this time the student body is worn out with sports and contests and would like to rest for awhile. When practice for track finally does begin, there is not enough time for thorough training. In short, track has been crowded out of the program of the small high school by the many other activities which are now being carried on.

Another cause for lack of interest in some high schools is the absence of recognition for skill attained by pupils in track. Track is by nature more of an individual sport than ball games. Therefore, it is easy to ignore individual skills and attainments, or pass them up as insignificant. This kills interest very quickly. Or perhaps we should say it prevents interest from developing.

Another problem faced by small high schools is afternoon practice. The majority of small high schools are rural and practically all their pupils are transported to school on buses. When school is out for the day, most of the pupils find it necessary to catch the bus immediately or walk several miles home. Most practice must be carried on during the school day in order to include a representative group. Also, in the spring, about time for work on track, many rural boys and girls are needed on the farm for spring planting. This has necessitated shortening the school

day in many cases to adapt the school program to the economic order of the community. Many rural high schools reduce their activities in the spring to near the minimum.

The short period for practice in track has brought about another obstacle which interferes with interest in track by showing up the so-called natural born runner or jumper. Among groups of high school pupils that have had very little training in track will be found one or two boys who can outrun and outjump all the others. It is natural the others will take the attitude that there is no use trying to compete with the best, so many of them lose interest and drop out.

The writer is among those who think that track should continue to occupy a considerable place in the athletic program of our high schools. There are skills to be attained in track that cannot be attained in any other sport. Every young person who is physically able should participate in some track activity. It is possible to offset some of the causes for lack of interest in track, and although the task is not an easy one, the chances for success are well worth the effort.

The strenuous concentration on basketball can be relieved by spring basketball practice in those high schools that do not have football. In the rural schools that have summer terms, it has been found practical to have short periods of drill on the fundamentals of several sports. At this time basketball drills can be practiced if care is taken not to let the players get overheated. Goal shooting, dribbling, passing and pivoting can be practiced safely enough. Broad jump and high jump can also be practiced during the summer, but running should be kept at a safe minimum. By spreading out the time for sports activities over the entire school year, it is possible to get in more time for track. This can be done a few minutes each day without seriously interfering with the sport of the season and without unduly prolonging the school day. In some small high schools, sports activities are carried on during vacation under the auspices of clubs and other organizations of the school. This gives training and at the same time stimulates interest in sports. This is a good way to work up interest in track, especially among the younger members of the clubs.

One of the best ways to prevent the pupils with natural ability from stealing the show and discouraging the others is to start training for track in the elementary grades. This training should extend from the first grade through high school. By the time pupils reach senior high school, they have had some useful training during their growing period and are, therefore, not as awkward as those who grow up without such training. This training in the elementary grades makes for well-trained and superior track teams for the

high school. It has the advantage of holding the interest of younger pupils until they overcome their awkwardness and attain some degree of skill in the sport. The ones that do not have what seems to be natural ability can increase their ability by training. In this way, competition will be keener and, consequently interest will be greater.

Interest in junior track is stimulated by county-wide junior track meets in which all schools of the county compete for first, second and third places. The age limit should be about 15 years and the weight limit about 115 pounds. If some trophy or ribbon is presented to winners, interest is usually greater. After the county-wide junior track meet, there should be another meet for the senior track teams. Larger trophies and recognitions should be given to the winners. Pictures and write-ups should be put in the newspapers.

Another means of stimulating interest in track is to have practice track meets between two schools of about the same size. This builds up confidence as well as interest. The plan is carried out in the same manner as practice games in basketball prior to the tournament at the end of the season.

For high school pupils just entering track for the first time, it is better not to make the practice too competitive until they attain some skill in one form or another. Then gradually increase the competition, keeping the competitors about the same size and age at first. Later the competition may be allowed to become wider and more varied. Classes may compete first, then schools. Too many pupils have become discouraged because competition was too great for them at first. If they had been allowed to become better skilled and more confident before entering into competition with others, they might have continued the sport.

Finally, the most interesting part of all sports is good sportsmanship. Without it we might as well fold up and stop. Athletics without good sportsmanship are like trains without tracks or ships without rudders. No one likes a bad sport, and no one can enjoy an unsportsmanlike performance. Wherever bad sportsmanship creeps in, real interest creeps out. If we are to build up interest in track, we must teach good sportsmanship at all times. Everyone likes a good sport even though he be the loser. Good sportsmanship taught by one who really believes in it will stimulate interest in any sport to which it is applied. A good sport has something worth while that he can carry with him through life. This something will be with him as a guide when his physically developed body fails.

Vincent D. Strout
High School, Cabot, Vermont

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school this year. It will be the first time in the history of the school that such an activity has been tried.

Our baseball season is very short because of a low field that dries up slowly, however, there will be places on the field that will be dry long before we are able to play baseball. We hope track can be used as an activity between the end of the basketball season and the beginning of the baseball season. Track could be started shortly after the snow goes.

The equipment we will need for track is not expensive. We will have to buy a shot, a discus and a couple of poles for vaulting. The total cost for equipment will be about \$13. The boys will be only too glad to construct jumping pits and stands. The material for jumping stands can be obtained locally at small cost. We will not have a cinder track but we have plenty of hard dirt roads for our running events.

We plan to have dashes, relays and some distance events on our running schedule. The distance events will depend on the interest and ability of the boys. The discus and shot put will make up our field

events. The jumping schedule will include pole vaulting, the running broad jump and the high jump.

The season will start with contests between classes. The ninth, tenth, eleventh and twelfth year classes will compete against each other and the seventh and eighth grades against each other. We will try to arrange meets with near-by schools of our size and to wind up the season with a group meet of four or five schools.

Carl Wilson Wise

Shoemaker High School, Gate City, Virginia

Within the past three years we added football and basketball to our high school athletic program. In order to make our program a full year one it was necessary to also add a spring sport. We decided upon track as this sport because we felt it was as important as any other major sport in building up young athletes.

Our track program has been organized along intramural lines. Intramural teams are organized and compete with one another. This competitive aspect, we have

found, has proven very successful in arousing interest. It also gives us a chance to thoroughly watch the boys and helps us in selecting our track squad. The boy who has been recognized as the most outstanding through his daily performances is awarded an intramural track and field trophy.

Our interscholastic track program is rather limited, holding as we do only two or three meets with neighboring schools. In those meets the same events are held as in our intramural programs.

We find the following track and field events are most suitable to our program: The 50, 100, 220 and 440-yard dashes. The distance runs, including the half-mile, mile and cross-country. Other events include the running and standing broad jump, running and standing high jump, shot put, discus throw, low hurdles, baseball throw, football throw and relays.

As limited as our program is, we feel it has been a great help in the promotion of year-round activities. Our operating expenses have been kept very low and are within the range of most small high schools.

Preparing a Turf for Six-Man Football

By Sam L. Chandler

Flour Bluff High School, Corpus Christi, Texas

SEVERAL fine articles have appeared in the *ATHLETIC JOURNAL* by outstanding authorities on the subject of preparing a turf for the eleven-man football field. The six-man coach, naturally, represents the small high school. If his task is to introduce the game of football into the school program in the abbreviated six-man form, his first problem will be to prepare a suitable playing space. This should begin at least one year prior to league participation by the new team.

Some coaches face the job of transforming a vacant lot or field into playable condition in a limited time. It may be necessary to change an area of scrub brush on shifting sands into a modern gridiron. Prior to changes made, however, the prospective fleet-footed backs may come to view the new game with questionable enthusiasm.

With the assistance of a road grader or blade maintainer, the area can be smoothed into the desired curvature for the finished field to assume. After the field has been smoothed, it is sloped from the side lines toward the center, and from the end zones toward the center, giving an

egg-shaped appearance. A gradual elevation of twelve to fourteen inches from the side lines to the center and from the end zones to the center seems satisfactory, so far.

Eight hundred cubic yards of black loam will cover the entire area with a two-inch surface. The black loam absorbs rainfall well, preventing drainage problems.

As soon as the dirt has been hauled and had time to settle, the area can be sowed with good Bermuda grass seeds. It required fifteen pounds of Bermuda grass seeds to sow the local six-man field. We made no allowance for loss due to high winds. If fortune favors, a good rain may fall immediately after planting, thus assuring a good stand the first attempt. It takes about two weeks for the seeds to germinate. Along with the tender shoots of grass will appear young weeds, thistles, etc. The fight has then definitely begun.

After the grass has begun to grow, the bare areas can be replanted with grass obtained from well sodded areas elsewhere on the campus. The grass should be allowed to grow several inches, three to five in height, before the first cutting. The

object is to get a strong base and root system rather than encourage the young grass to spread too soon.

Every locality has its own peculiar problems concerning the type of intruders to combat. Locally, the grassburrs are a menace to successful sodding. The most frequently used method is to dig them out by the roots and destroy the entire plant. In no event are they allowed to go to seed on the field. Some schools use a special built blow torch to burn the burrs on the field. This, however, damages much nearby grass. The early spring is the best time of the year to fight the grassburrs.

The watering system in the small school is usually limited. However, a good drenching after each cutting produces satisfactory results.

The six-man field is one hundred yards long and eighty yards wide. In planning a six-man layout, a wise procedure is to allow at least five additional yards beyond the side lines as a *safety zone*. The six-man field then becomes fifty yards wide. The ten-yard area should be as well sodded and cared for as the regular playing field. Such arrangements prevent possible in-

juries to players carried out of bounds "into the rough" on wide plays.

The six-man game does not appear to be as destructive to the gridiron covering as the eleven-man game. This may be attributed to the fact that the molded rubber cleats do not tear the turf as badly. The smaller number of players on the field at any one time reduces the wear also. Local teams experience difficulty of footing when playing night games on a field turfed to accommodate the eleven-man shoes. This leads to the conclusion that there must be a definite relationship between depth of turf and kind of shoes to be worn on that field.

To prevent the grassy area from receiving abuse, the majority of the practice sessions should be held elsewhere. An extra area of seven hundred square yards can be obtained for fundamental drills by extending the playing field fourteen yards beyond one of the end zones. Of course, the field, when only one is available, must be used once or twice a week during the regular playing season. By alternating positions of the field during practices, no particular area will receive undue wear. It is also advisable to protect the center of the field and the goal line surfaces by limiting practice activities on them. These areas usually receive strenuous wear during the games.

The appearance, care and improvement of a football field should be a coach's year-round interest. Regardless of the number of caretakers provided per system for athletic purposes, the coach should maintain an active interest toward the football field. Remember the track coach who remarked, "No one can tend to those cinders as well as I can."

Football Conditioning Exercises

(Continued from page 29)

a training school for their army. Their sport was for the purpose of defense. Something essential to general fitness can be acquired through sports. Our hope is that we can always use this fitness for peaceful living, but there is no law against our thinking of sports for defense should the need arise.

This type of calisthenics has been facetiously named "The Muscle Factory." It should be understood that one of the goals is that of increasing the muscular strength of the players, but there are other important goals which should not be overlooked. The players are drilled in speed of execution. When they are given the command to lie on the floor, they are expected to perform the movement as one man. The action is fast and the boys catch the spirit of the work. When their movements have become more skillful and better timed,

(Continued on page 47)

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A Mechanical Analysis of the Pole Vault

(Continued from page 22)

ceeding four or five inches deviation. The lateral pole bend was slightly greater but did not exceed six inches in the majority of the cases.

Recommendation

The pole vaulter should choose a pole which, when held at the maximum hand-grip, will not bend more than four or five inches out of a straight line. This can be tested by holding the pole at the maximum hand-grip, resting one end of the pole on the ground, the other end on the shoulder, and depressing it with the hands.

Timing of the Hand Shift

An examination of the action strips of eight of the world's best and ten of the best eastern vaulters indicates that the better vaulters begin to drop the pole toward the box and shift the hands in the middle of the third stride before the take-off. Before the vaulter takes his last stride which is followed by the take-off foot, the hands are shifted. The ideal situation for the timing of the hand shift is to begin it as late and as fast as possible. Beginning the shift prematurely destroys the rhythm of the run and slows the vaulter's approach. This is very noticeable even with experienced vaulters who have not perfected this phase of their technique. Some vaulters shift the pole as late as the last stride before the take-off. The shift must be fully completed and the pole solidly planted before the vaulter has begun to reach upward and spring from the ground.

Extent of Hand Shift

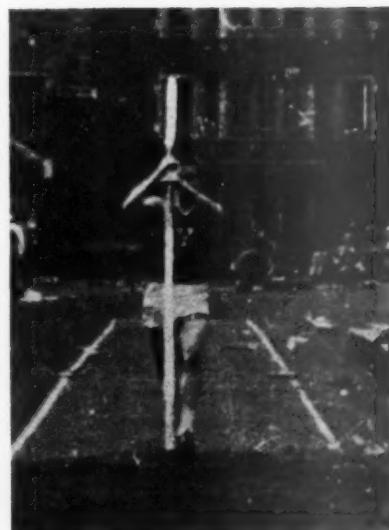
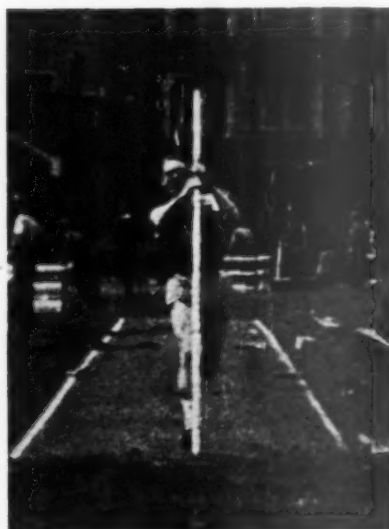
The coaches and prominent vaulters disagree as to how close the hands should be together after the shift has been completed.

Sefton believes that a hand spread of two or three inches gives better balance. Meadows favors a slight hand spread, Cromwell suggests a hand spread of less than six inches. Warmerdam favors a position as close together as possible so long as it does not cause the fingers to bind.

In the illustration of McIssacs of Harvard on a 13' 6" vault (top), notice the outward twisting of the foot in order to shift the weight of the body over the take-off foot. Notice also in the illustration of McIssacs, who is left-handed, how the pole splits the vaulter's body and how the elbows are bent to absorb the shock of the pole plant.

In the illustration of Lussen of Yale on a 13' 9" vault (bottom), notice the balance at the take-off and the outward twisting of the foot. These two points are to be found in all top vaulters.

Those favoring a slight spread between the hands advocate this because it helps the turn. The arguments in favor of a hand spread to help the turn and improve the balance are not convincing since, first, the turn is the result of an efficient scissor-like action of the legs and, second, the strain of pulling and pushing is placed mainly on the right arm throughout the vault because of its greater extension at the take-off and greater flexion in the push-up. The normal unbalanced position of the hands with a complete shift, coupled with efficient leg action, should provide a sufficiently gyroscopic effect to turn the vaulter around.



THE ATHLETIC JOURNAL

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Recommendation

Topnotch vaulters raise their bodies two and one-half feet over the point of hand-grip. Therefore, the higher the vault, the more important becomes this factor of reach in the final clearance. The failure of many athletes to clear top heights may be traced directly to over-anxiety and a failure to completely shift the hands. One sign of perfection in the vaulting technique, and one of the four major changes in vaulting form which lead to the heights that vaulters now clear regularly, is the complete shifting of the hands. During the 1941 indoor season the investigator watched Earle Meadows create a new world indoor pole vault record of 14 feet, 6 $\frac{7}{8}$ inches. On this jump Meadows struck the bar with his arm but did not displace it. His hands were not shifted within one foot of each other when he made this jump. Had the hands been shifted to a touching position it is more than likely that Meadows would have cleared the bar much more easily without striking it. From the point of view of mechanics, the closer the hands are shifted together the better.

Last Stride Shortened

In the study of over fifty different vaults, it was found that in 85 per cent of the cases the vaulters shortened the last stride of their run anywhere from 4 inches to 1 $\frac{1}{2}$ feet. The average shortening was about 8 inches. The amount of shortening varies with the height and leg length of the jumper, and, in a given number of trials, is proportional to the consistency with which the vaulter strides.

The purpose of the shortened stride is to allow the vaulter to gather himself for the projection of the body onto the pole, or to bring the body weight more nearly over the take-off foot and increase the efficiency of the spring.

In every instance the vaulters studied twisted the right foot outward as they made their final step to the take-off foot. This twisting of the right foot shifts the weight of the vaulter directly over the take-off foot and directly in line with the plane of the pole as seen in the photographs of McIssac of Harvard starting a 13 foot, 6 inch jump. Studies of German broad jumpers, high jumpers and hop step jumpers have indicated that the shifting of the body weight by twisting the foot in this manner results in a marked increase in jumping performance.

If the weight is not shifted in this manner when the body is projected upward, it will result in the body being projected at an angle to the right away from the pole and center of the crossbar instead of straight ahead and upward past the pole. This same condition will result if the vaulting pole is too rigid and does not allow the vaulter's body to swing past in a straight line.

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Run and Take-Off Velocity Compared

To determine the relationship between the run and take-off velocity, the velocity of the last few strides was computed, and the velocity of the actual projection of the body upward into the air was measured.

In thirty-four of the forty-five jumps studied, there was a definite increase in velocity from the run to the take-off, varying from one-half to four or more feet per second. In eight other vaults studied there was a very slight decrease in velocity at the take-off and in four vaults the take-off and run velocities were the same.

The velocity increase at the take-off, which averaged in the neighborhood of two feet per second, provided conclusive evidence that the vaulter made a conscious spring onto the pole with a vigorous stamp of the left foot and a forward upward snap of the lead leg as shown in Drawing 2 which was taken from the photographs of a successful 14 foot, 5 inch vault. The snap-up of the right leg as shown is extremely important because it augments the spring of the take-off according to Newton's Law of Interaction which states, "For every action there is an equal and opposite reaction."

Not only does this knee-snap help to develop a high take-off and swing velocity, but it also helps lead the body forward and prevents the hips from dragging. It, therefore, brings the body into a mechanically sound position for the pull-up much sooner than a plain swing from the ground and reduces the amount of muscular strain involved in swinging up the legs. This action has been sketched in Drawings 3, 4 and 5. Study carefully the position of the center of gravity in relation to the take-off foot and later in relation to the hand-grip. Proper use of the right leg in the swing phase of the vault is a material aid in helping the vaulter get in a good swing-up position with body weight well balanced on the pole as shown in Drawing 5. Note especially how the center of weight, center of rotation and center of support of the pole fall in perfect alignment. Action taking place from this very mechanically sound position will give the maximum lift of the body upward with a minimum loss of pole velocity.

Point of Take-Off

There seems to be little question in the minds of the coaches and vaulters that the most important single factor which determines the success or failure of the vault is the take-off point.

The athletes and coaches questioned emphasized these points in the take-off. Sefton: "Straight, smooth and balance at the point of departure." Carl Merner: "A smooth slide of the pole in the box with the arms reaching extension in co-ordination with the spring." Warnerdam: "I can usually trace any faults in my vault

back to the take-off. I do not emphasize the springing take-off." Meadows: "Feel that you are still going forward and not upward until after the take-off. Feel with most resistance, with the least expenditure of energy."

Careful analysis of the movie strips of topnotch vaulters indicate that these men take off with the hands over the head but with the body leaning slightly forward. A line drawn from the toe of the take-off foot through the center of gravity makes an angle of approximately 80 degrees and becomes somewhat steeper as the height of the bar increases. The exact point of take-off is also conditioned to a great extent by the amount of emphasis placed by the individual vaulter upon a swinging or springing take-off. Vaulters using the swinging take-off have their take-off point somewhat closer than the others. The slight forward body lean at the take-off is absolutely essential for a smooth projection onto the pole. If the point of take-off is too close, the arms are forced into premature extension and the vaulter is jerked from the ground. This type of vault is characterized by the vaulter's too great swing velocity which makes it impossible for him to pull-up before he hits the crossbar. In a take-off position which is too far away (this may mean a difference of only three or four inches), the vaulter starts upward before the pole can start its arc and a premature pull-up results, causing the vaulter to get his height too far in front of the crossbar. A too distant take-off point results in a high velocity of the vaulter, inconsistent with that of the pole, and a too close position results in a high pole velocity, and too little speed of the vaulter in his pull-up.

Recommendations

Pole vaulters should not attempt to locate their take-off point from a static position. Locating the point by actual vaulting is the only sound procedure with the other method merely a checking procedure. Inconsistent striding, pressing due to competition, wind and slow track conditions all greatly effect the location of the take-off point from day to day.

The second article, summarizing Mr. Ganslen's thesis, will appear in the May issue. In that article Mr. Ganslen will discuss the hand-grip clearance styles and take-off points. He, furthermore, will point out the results of his survey as tried out by Earl Meadows, Kenny Dills and himself during the indoor season just closed.

Football Conditioning Exercises

(Continued from page 43)

they show marked enthusiasm for the work. For best results the following tips are offered:

1. Put plenty of pep into each exercise.
2. Use football terminology wherever possible.
3. Keep up an intermittent chatter of encouragement.
4. Repeat each exercise only a few times at first to avoid undue fatigue.
5. Change from one exercise to another without any pause.
6. Name exercises after team members ("Smith Special," etc.). These may be given to the squad by the men for whom the exercises have been named.
7. Keep the whole thing moving fast.
8. Remember, in addition to muscular strength, emphasis must be given to timing and rhythm. Skillful movements must be the goal.

How Conditioning Exercises Can Help Football Players

By Robert C. Zuppke
Football Coach, University of Illinois

Last season (1940) the Illinois football team played alert and heads-up football, but its players seemed to lack the physical strength to hold onto opponents.

Therefore, under Professor Stafford, we started a class to develop strength and stamina by weight-lifting, push-ups, pull-ups, rope-climbing and other vigorous forms of exercise. Weak performances by some of the players confirmed my belief that they needed to be developed muscularly.

Players may have big bodies but their flesh may be weak. Their spirit may be fine but their "weak flesh" will not let them express themselves successfully against a sturdy opponent.

I believe this work, if carried on consistently, will not only make the players stronger but will increase their agility. Increased agility means fewer injuries because the agile player does not get into positions where he is easily injured.

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Baseball as Taught at the Louisville Baseball Clinic

(Continued from page 18)

the second baseman aligning himself midway between the pitcher's box and the second base awaiting instructions from the shortstop. In either case the catcher throws to second base.

You will note that in the above mentioned methods, two players are pulled out of position. Note, too, that the possibility of one or the other handling the ball requires quick judgment and alertness, which results in a larger per cent of probable errors.

3. A pre-arranged signal is given signifying whether the second baseman or the shortstop is to cover the base after the ball passes the hitter. This designated fielder then quickly covers the base.

If the runner on third starts for home, the cover man moves forward toward the ball, cutting it off short of the base and relaying it home in time to nip the runner. On the other hand, should the runner on third hold his base, the cover man simply waits in a straddling position and tags the advancing runner from first. The other infielder gives instructions from his fielding position; however, in each of the above mentioned methods the center fielder moves in fast to cover any bad throws from the catcher.

4. Another cut-off method calls for the catcher to "fire" the ball back to the pitcher head high instead of throwing through to second. Of course, the hurler and the catcher must have the play pre-arranged because the former must recover faster to be set for a fast return of the ball, alert to relay to the proper base.

5. Other catchers fake their throw to second, then to third in the event that the runner on third starts for home. This method works most successfully after previous long throws have been made to second base.

Methods of Using the "Squeeze Play"

A "squeeze play" is a method of scoring a runner from third base by means of a bunt intended to catch the defense unaware or flat-footed. This play must be offensively pre-arranged.

Two squeeze play methods I will discuss are: (1) the safe squeeze and (2) the running squeeze.

The safe squeeze signifies safety from the baserunner's standpoint from undue chances of a putout. The runner on third base is to take an extra big lead on the pitcher's delivery; however, not too large in the event of a fast throw back from

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the catcher to the third baseman. He waits for the batter to lay down a bunt. The batsman selects a good pitch and attempts to bunt the ball to the ground, making the third baseman field it. The third baseman, in fielding the ball, is forced to come in fast, field and throw the ball on a fast run to the catcher ahead of the runner. The runner has started his run toward home after seeing the ball flash from the bat, toward the ground, in the third base direction.

The running squeeze calls for a different set of fundamentals. With the count right on the batter (indications of a probable strike being thrown), the baserunner starts his run toward home on the pitch and the batter must bunt or spoil any kind of pitch. Should the batter miss a coach's signal, fail to lay down or spoil the pitch, the runner is often caught flat-footed by the catcher on this type of play.

In putting on the first type of "squeeze play," an extra fast man as the base runner is required while the latter requires an exceptionally good and reliable bunter.

General Team Play

Nine-man team play in baseball is as important as eleven-man co-ordination in perfecting a football play, the five-man continuity in basketball or the clock-like precision of a racing crew.

While watching amateur or semi-pro games, we often hear it said, "if shortstop, Jones, had backed up third baseman, Brown, after catcher, Owen's, bad throw, or if center fielder, Johnson, had been faster to recover the muffed fly by left fielder, Thompson, those runs would not have scored against our club today." One can readily see that this type of team lacked team play; that is, the working together of the entire nine players on every type of fly or ground ball and on every type of pitch.

In kid baseball, team play is limited to two or not more than three players. Some of the better amateur teams include four or five; semi-pro along with the lower classification of professional clubs may add a sixth or seventh-man co-ordination. Major league clubs include a nine-player co-ordination on each pitch. This method of play requires hustle from all the players. Winning teams have hustle and the nine-man co-ordination. To prove this statement, one only has to observe the team play of opposing teams to determine their league standing.

I have written the preceding lessons in a brief way, hoping that they will assist those interested in promoting the sport of baseball, a game that young and old like to play or witness.

The final article of this series will appear next month and will include charts and explanations of baseball fundamentals and skill contests.

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